Quest™ PLUS

Instruction and Reference Guide

Model BLQ2-PL

baby lock®

FOR THE LOVE OF SEWING

To register your warranty and receive product updates and offers, register your Baby Lock machine on babylock.com/profile. If you have questions with registration, visit your Authorized Baby Lock Retailer.

Baby Lock Consumer Helpline: 800-313-4110
www.babylock.com

SAFETY INSTRUCTIONS

When using an electrical appliance, basic safety should always be followed, including the following:

Read all instructions before using this sewing machine.

DANGER -To reduce the risk of electrical shock:

1. An appliance should never be left unattended when plugged in.
2. Always unplug this appliance from the electrical outlet immediately after using and before cleaning.
3. Always unplug before checking and re-lamping. Contact the authorized retailer or service center for repair in the event of failure if the machine is with 200mW, 300mW and 200mW LED lamp, which is not user-replaceable.

WARNING -To reduce the risk of burns, fire, electrical shock, or injury to persons:

1. Do not allow to be used as a toy. Close attention is necessary when this appliance is used by or near children.
2. Use this appliance only for its intended use as described in this manual. Use only the attachments recommended by the manufacturer as contained in this manual.
3. Never operate this appliance if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into water. Return the appliance to the nearest authorized retailer or service center for examination, repair, electrical or mechanical adjustment.
4. Never operate the appliance with any air openings block. Keep ventilation openings of the sewing machine and foot control free from accumulation of lint, dust, and loose cloth.
5. Keep fingers away from all moving parts. Special care is required around the sewing machine needle.
6. Always use the proper needle plate, a wrong needle plate can cause the needle to break.
7. Do not use bent needles.
8. Do not pull or push fabric while stitching. It may deflect the needle causing it to break.
9. Switch the sewing machine off ("O") when making any adjustments in the needle area, such as threading needle, changing needle, threading bobbin, or changing presser foot, and the light.
10. Always unplug sewing machine from the electrical outlet when removing covers, lubricating, or when making any other user servicing adjustments mentioned in the instruction manual.
11. Never drop or insert any object into any opening.
12. Do not use outdoors.
13. Do not operate where aerosol spray products are being used or where oxygen is being administered.
14. To disconnect, turn all controls to the off ("O") position, then remove plug from outlet.
15. Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
16. The sound pressure level under normal operating conditions is 75dB(A).
17. Please turn off the machine or unplug when the machine is not operating properly.

SAVE THESE INSTRUCTIONS

This sewing machine is intended for household use only.

PLEASE READ BEFORE USING THIS MACHINE

For safe operation

1. Be sure to keep your eye on the needle while sewing. Do not touch the handwheel, thread take-up lever, needle or other moving parts.
2. Remember to turn OFF the power switch and unplug the cord when:
   - Operation is completed.
   - Replacing or removing the needle or any other parts.
   - A power failure occurs during use.
   - Maintaining the machine.
   - Leaving the machine unattended.
3. Do not store anything on the foot controller.
4. Plug the machine directly into the wall.

For a longer service life

1. When storing this machine, avoid direct sunlight and high humidity locations. Do not use or store the machine near a space heater, iron, halogen lamp, or other hot objects.
2. Use only neutral soaps or detergents to clean the machine. Benzene, thinner, and scouring powder can damage the machine, and should never be used.
3. Do not drop or hit the machine.
4. Always consult this operation manual when replacing or installing any assemblies, the presser feet, needle or other parts to assure correct installation.

For repair or adjustment

In the event a malfunction occurs or adjustment is required, first follow the troubleshooting guide in the back of this operation manual to inspect and adjust the machine yourself. If the problem persists, please consult your local authorized Baby Lock retailer.

For additional product information and updates, visit our website at www.babylock.com

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

When replacing old appliances with new ones, the retailer is legally obligated to take back your old appliance for disposal at least for free of charge.

CONTENTS

INSTRUCTIONS

SAFETY INSTRUCTIONS 1-2
CONTENTS 3-4
ACCESSORIES 5
PRINCIPAL PARTS OF THE MACHINE 6
FOOT CONTROL 7
OPERATION BUTTONS 8
- START/STOP button 8
- Reverse button 8
- Auto-lock button 9
- Needle position button 9

FUNCTION BUTTONS 10
- Stitch width adjustment button 10
- Stitch length adjustment button 11
- FUNC selection button 11
- Key lock button 12
- Bobbin winding button 12
- Elongation button 12
- Mirror image button 13
- Twin needle button 13

SELECTION BUTTONS 14
- Direct pattern selection and number buttons 14
- Memory button 15
- Edit button 15
- Clear button 15

GETTING READY

CONNECTING THE MACHINE TO THE POWER SOURCE 16
- Connecting the machine 16

TURN MACHINE ON / OFF 17
UNDERSTANDING THE LCD SCREEN 18-19
LCD SCREEN BRIGHTNESS CONTROL 19
WINDING THE BOBBIN 20
- Bobbin winding 20-22

INSERTING THE BOBBIN 23-24
UPPER THREADING 25-27
- Using the needle threader 28
- Using the net 29
- Raising up the lower thread 30

CUTTING THE THREAD 31
REPLACING THE NEEDLE 31
CHANGING THE PRESSER FOOT 32
- Attaching the presser foot holder 32
- Attaching the presser foot 32
- Removing the presser foot 32
- Type of presser foot chart 33
- Two-step presser foot lifter 34

PRECISION DUAL-FEED QUILTING (PDQ®) 35
- To engage the PDQ® system 35
- To disengage the PDQ® system 36
- Fabric positioning 36

SEWING BASICS

PATTERN CHART 37-38
MATCHING NEEDLE/ FABRIC/ THREAD 39
THREAD TENSION 40
LENGTH & WIDTH ADJUSTMENT 41
- Stitch width adjustment 41
- Stitch length adjustment 41

PATTERN BALANCE ADJUSTMENT 42
PRESSER FOOT PRESSURE ADJUSTMENT 43
USEFUL FUNCTIONS 44
- Reverse 44
- Free arm sewing 44
- Installing the extension table 45
- To raise or drop the feed dogs 46
- Attaching the knee lifter 46
- Knee lifter to raise / lower presser foot 46

USEFUL SEWING TIPS **47**
Sewing corners 47
Sewing on heavy fabric 47

STITCHES
SELECTING STITCHES **48**
BASIC STITCHING **49**
Straight stitches and needle position 49
Zigzag stitches 49
Stretch stitch 50
BLIND HEM / LINGERIE STITCHING **51**
OVERCASTING STITCHES **52**
Using the overcasting foot 52
Using the all purpose foot 52
ZIPPER INSERTION **53-54**
Inserting a centered zipper 53
Inserting a side zipper 54
BUTTON SEWING **55**
BUTTONHOLE STITCHING **56-59**
Making a one-step buttonhole 56-59
Making a buttonhole on stretch fabrics 59
BAR TACK STITCH **60-61**
EYELET STITCH **62**
DARNING STITCH **63-64**
To adjust the evenness of darning stitch 64
NARROW HEMMING **65**
QUILTING **66-69**
Using the straight stitch needle plate 66
Patchwork sewing 66
Hand quilting stitch 66
Decorative patchwork stitching 67
Free motion darning, embroidery & monogramming 68-69
ATTACHING THE EDGE/ QUILTING GUIDE **70**

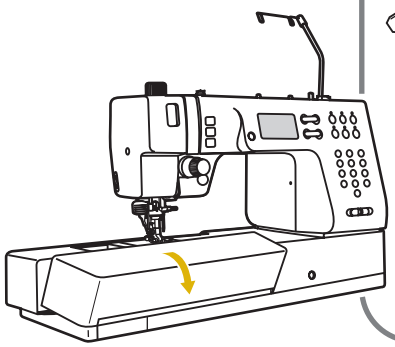
DECORATIVE TECHNIQUES
CORDING **71**
Single cording 71
Triple cording 71
FAGOTING **72**
GATHERING **73-74**
SATIN STITCH SEWING **75**
SCALLOP STITCH **76**
Scallop hem 76
Scallop edging 76
SMOCKING **77**
THE TWIN NEEDLE **78-79**

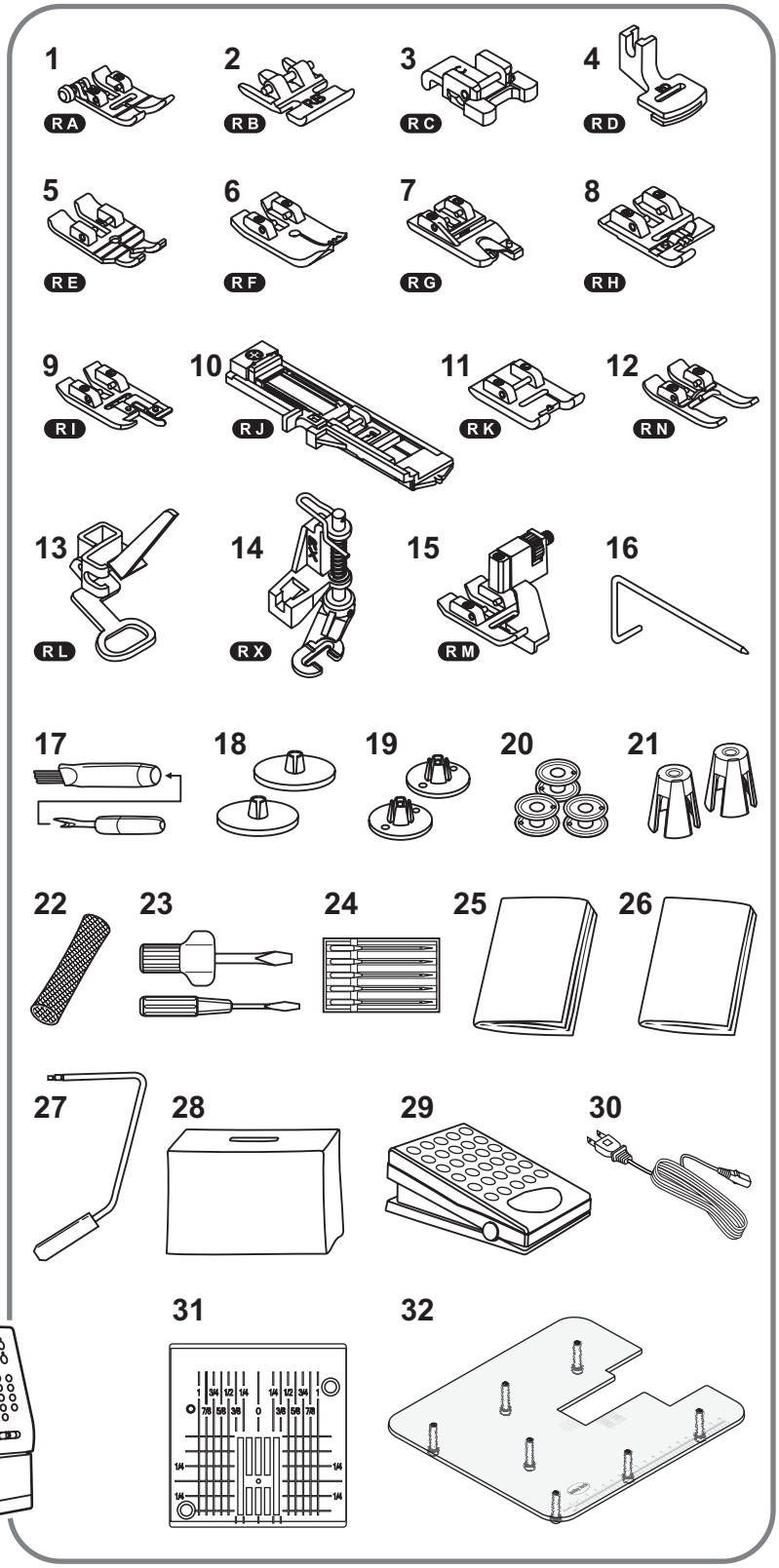
DECORATIVE PATTERNS
ELONGATION **80**
MIRROR IMAGE **81**
MEMORY FUNCTION **82-85**
Combining patterns or letters 82-83
Adding patterns or letters 83
Editing patterns 84
Clearing patterns or letters 84
Recalling and sewing the memorized pattern 85

APPENDIX
WARNING FUNCTIONS **86**
Warning animation message display 86
Instruction animation message display 87
Unlock 87
Warning beeping sound 88
Beeping sound 88
MAINTENANCE **89-90**
Cleaning the LCD screen 89
Cleaning the sewing machine surface 89
Cleaning the hook 89-90
TROUBLESHOOTING **91-92**
STITCH REFERENCE CHART **93-102**

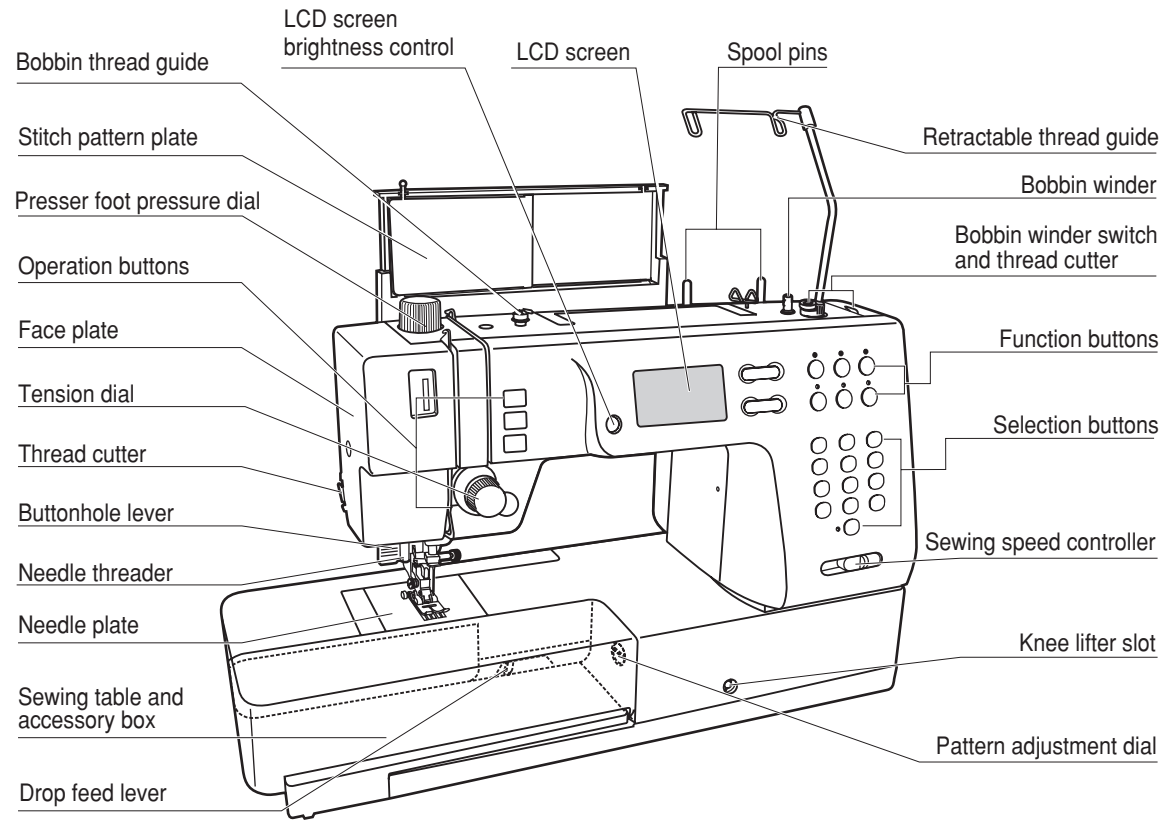
ACCESSORIES

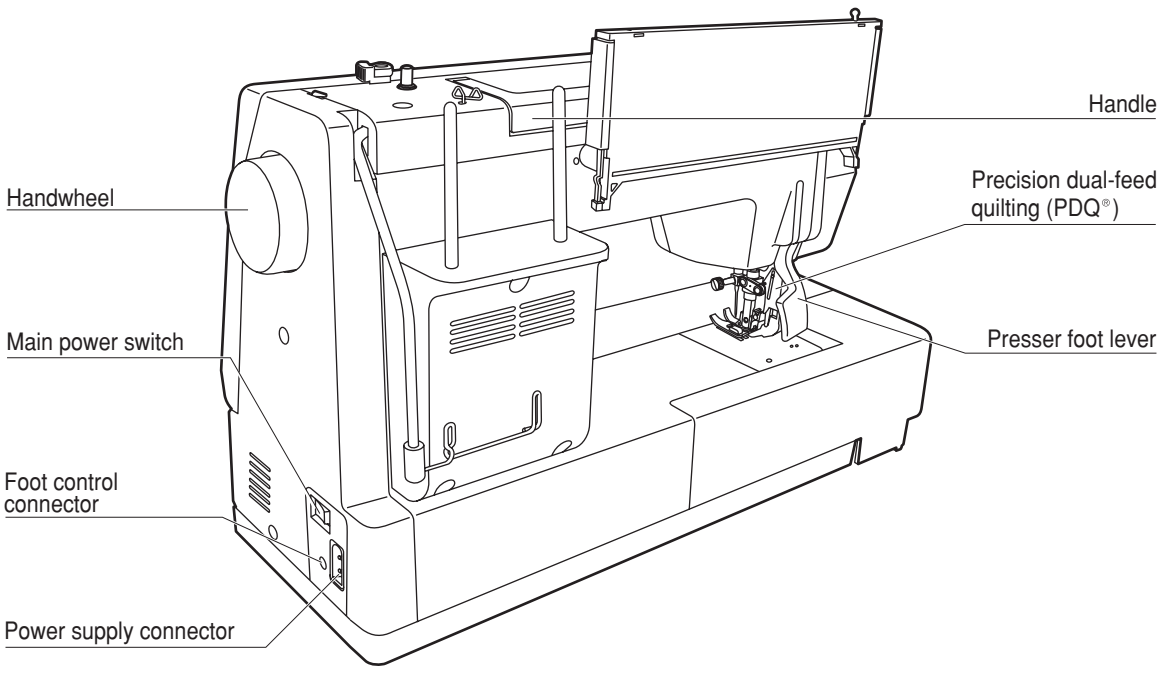
1. All purpose foot (RA)
2. Zipper foot (RB)
3. Button sewing foot (RC)
4. Gathering foot (RD)
5. 1/4" inch quilting foot (RE)
6. Quilting foot (RF)
7. Hemmer foot (RG)
8. Cording foot (RH)
9. Overcasting foot (RI)
10. Buttonhole foot (RJ)
11. Satin stitch foot (RK)
12. Open toe foot (RN)
13. Free motion darning foot (RL)
14. Free motion open toe darning foot (RX)
15. Blind hem foot (RM)
16. Edge/ quilting guide
17. Brush/ Seam ripper
18. Spool cap (Large)(2X)
19. Spool cap (Small)(2X)
20. Bobbin (3X)
21. Cone holder (2X)
22. Net
23. Screwdriver (L & S)
24. Pack of needle
25. Instruction and Reference Guide
26. Quick Reference Guide
27. Knee lifter
28. Soft cover
29. Foot control
30. Power cord
31. Straight stitch needle plate
32. Extension table



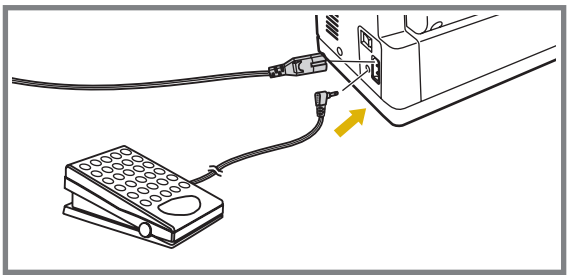


PRINCIPAL PARTS OF THE MACHINE

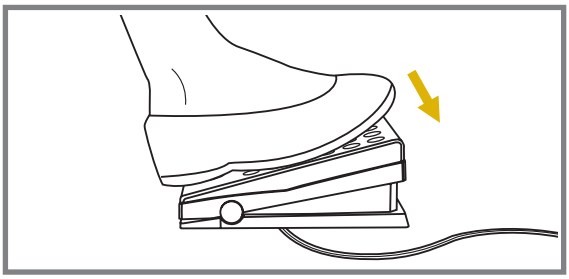




FOOT CONTROL



With the sewing machine turned off, insert the foot control plug and the power supply cord into their appointed connectors on the sewing machine.



Turn on the sewing machine, and then slowly depress the foot control to start sewing.

Release the foot control to stop the sewing machine.

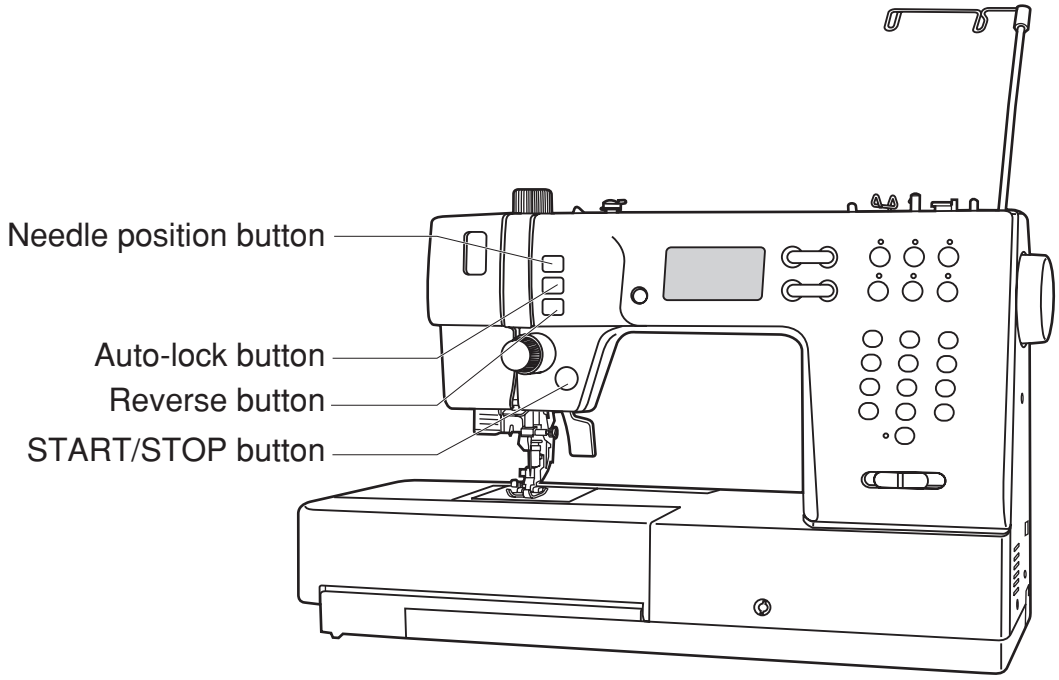
By tapping the foot control one time will allow the needle to go up or down.

Note: *The setting of the sewing speed controller will limit the maximum speed of the machine when using the foot control.*

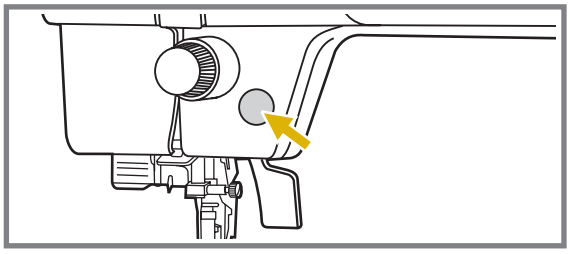
Attention: *Consult a qualified electrician if in doubt as how to connect the machine to the power source. Unplug the power cord when the machine is not in use.*

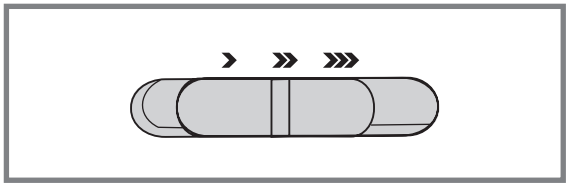
The appliance must be used with the foot control C-9001 manufactured by CHIEN HUNG TAIWAN., LTD.

OPERATION BUTTONS



START/STOP button





The machine will start running when the START/STOP button is pressed and will stop when pressed the second time. The machine will stitch slowly at the beginning of the sewing.

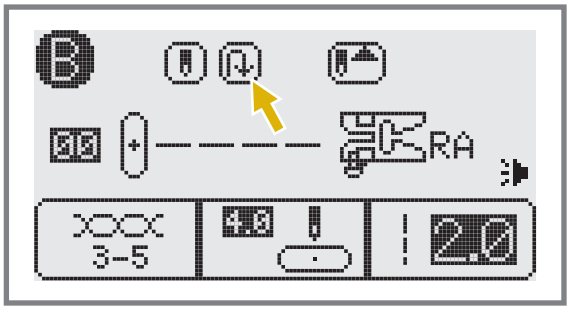
The sewing speed can be controlled by the sewing speed controller.

Note: *The Reverse and START/STOP button functions will work at the same time even when foot control is connected.*

Use the sewing speed controller to adjust the sewing speed.

To increase the speed, slide the lever to the right; to decrease the sewing speed, slide the lever to the left.

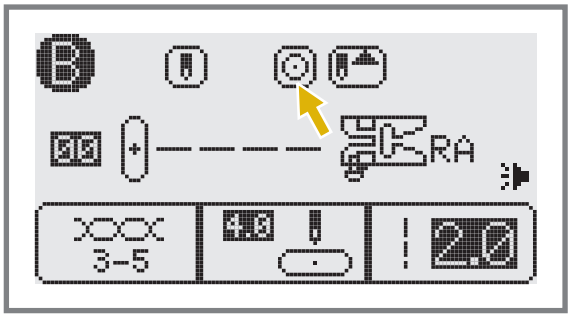
Reverse button



Select Group 2-B Patterns 00-06, 27-29 or Group 3-C Patterns 00-02, 04 and the machine will sew in reverse. An arrow "⇩" on the LCD screen display appears while stitching in reverse. The machine will sew forward after the button is released.

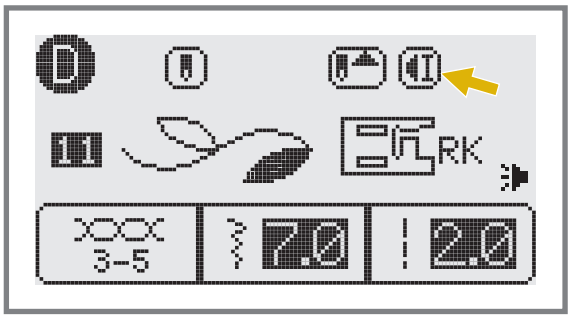
Select Group 2-B Patterns 07-26, 50-92, Group 3-C Patterns 03, 05-24 and Group 4-D Patterns 00-78 a reinforcement stitch sews at a low speed and machine automatically stops if the reverse button is pressed.

Auto-lock button



When the Group 2-B Patterns 00-05, 45 and Group 3-C Patterns 01-02, 04, 18 are selected, the machine will immediately sew 3 locking stitches when the Auto-lock button is pressed, then will automatically stop.

The LCD screen will display the figure " ◎ " until the locking stitches stop.

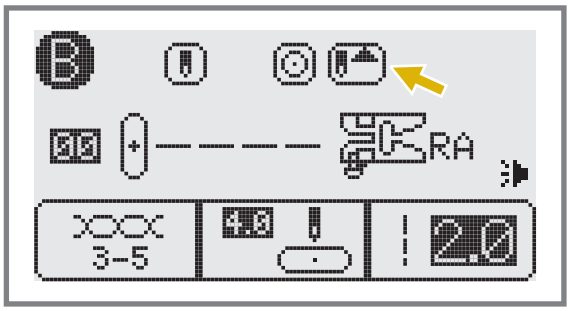


To stop machine at the end of the current pattern or to sew a single pattern (except Group 2-B Patterns 00-05, 27-49 and Group 3-C Patterns 00-02, 04, 18), press the Auto-lock button, the machine will sew 3 locking stitches at the end of the current pattern and automatically stop.

The LCD screen will display the Auto-stop figure " ◧ " until the feature is cancelled.

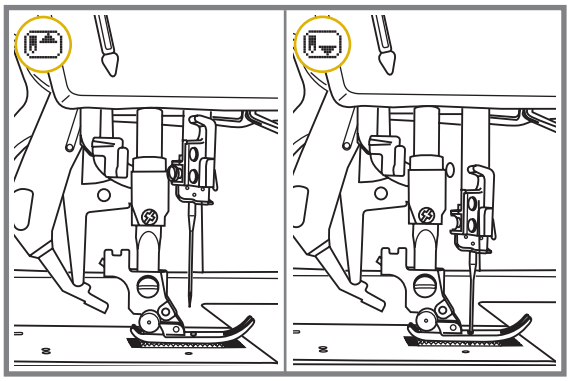
The function will be cancelled if you press the button once again or select another pattern.

Needle position button



Press the button so that the arrow, on the LCD screen, will point upward " ⏶ " and the needle will stop in the highest position.

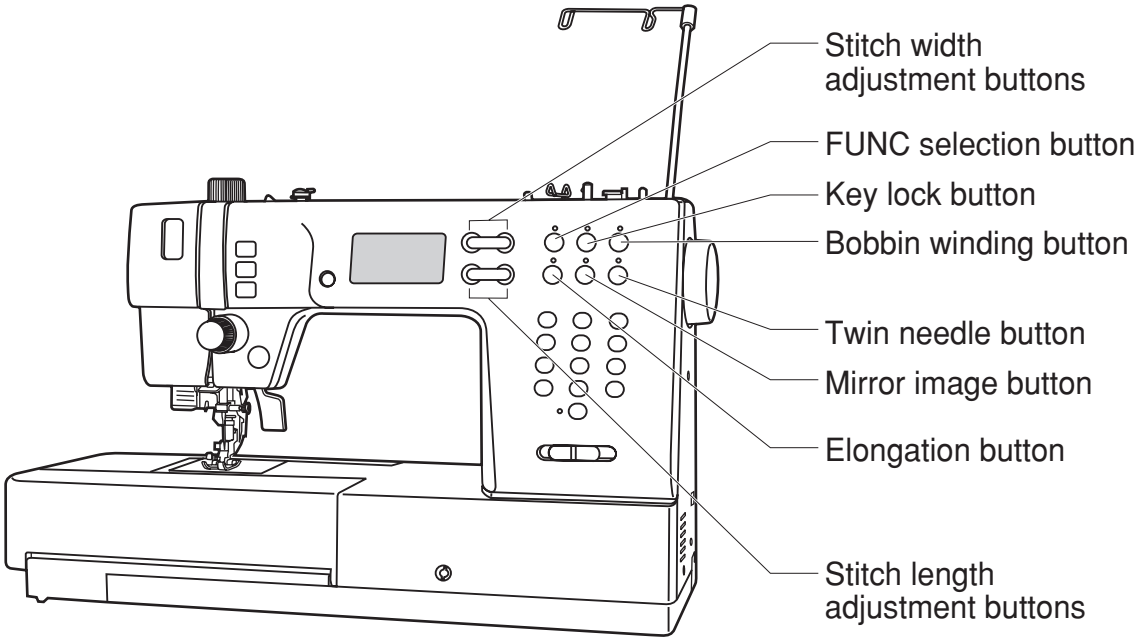
When you press the button so that the arrow points downward " ⏷ ", the machine will stop with the needle in the lowest position.



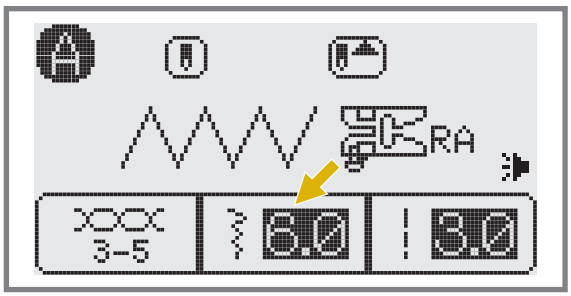
Pressing the needle position button once will raise or lower the needle.

Pressing the needle position button twice will sew one stitch.

FUNCTION BUTTONS

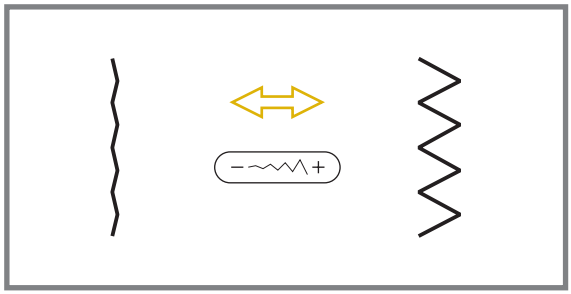


Stitch width adjustment buttons



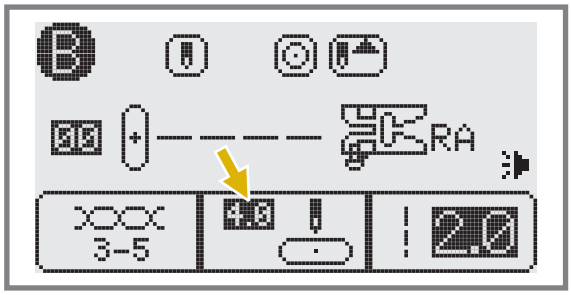
When you select a stitch, the machine will automatically set the recommended stitch width, which will be indicated by numbers on the LCD screen. The stitch width can be regulated by pressing the stitch width adjustment buttons.

Certain stitches have a limited stitch width.



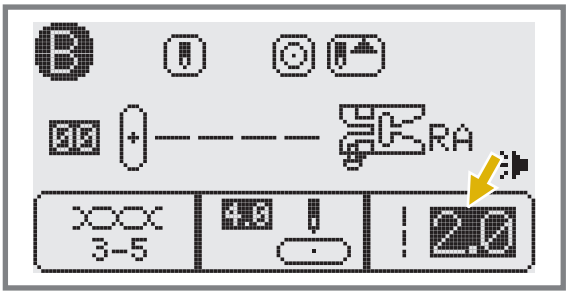
For a narrower stitch, press the left side of the button "–". For a wider stitch, press the right side of button "+". The stitch width can be adjusted between "0.0-8.0".

Certain stitches have a limited stitch width. (See "Stitch reference chart " on page 93.)

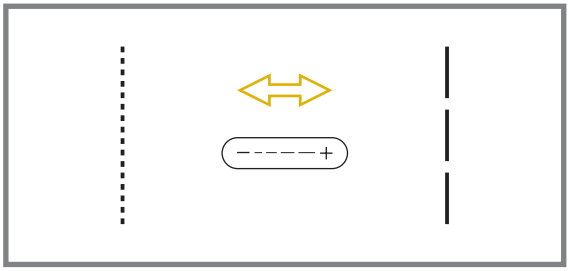


When Group 2-B Patterns 00-05, 27-29 and Group 3-C Patterns 00-02, 04, 18 and Group 4-D Pattern 50 are selected, the needle position is regulated by the stitch width adjustment buttons. Pressing the "–" button (left), will move the needle to the left and pressing the "+" button (right), will move the needle to the right. The numbers will be changed from left position "0.0" to extreme right position "8.0". The pre-set center needle position will be indicated as "4.0".

Stitch length adjustment button



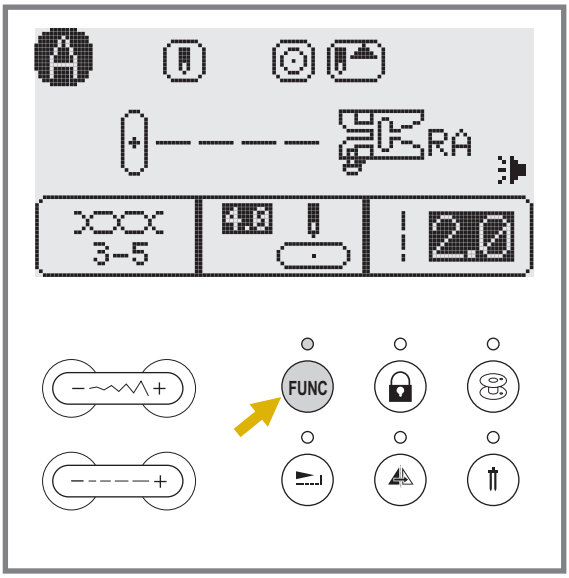
When you select a stitch the machine will automatically set the recommended stitch length which will be indicated by numbers on the LCD screen. The stitch length can be adjusted by pressing the stitch length adjustment buttons.



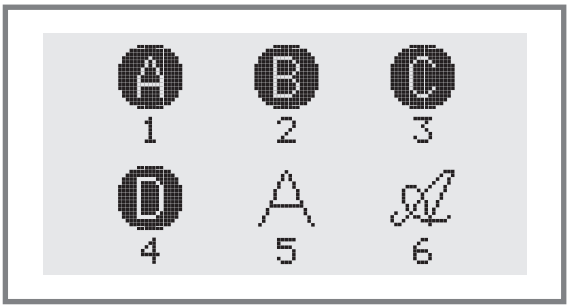
For a shorter stitch, press the left side of the button "–". For a longer stitch, press the right side of button "+". The stitch length can be adjusted between "0.0-5.0".

Note: *Certain stitches have a limited stitch length range.*

FUNC selection button



The LCD screen will be set at direct mode A when you turn on the machine. By pressing the "FUNC" button, the LED light will turn on. LCD screen enters the pattern group screen automatically. Press the numbered button corresponding to the group of stitches. For example : Press FUNC, then 2 for group B. Then press the 2 digit pattern number from group B on the stitch chart.



1 Direct mode stitch selection (Group 1-A)- Select pattern from the numbered buttons or "FUNC", and then 1 to reenter direct selection.

2 Utility and decorative pattern mode (Group 2-B)- Press "FUNC", then 2, and then pattern number by using the numbered buttons.

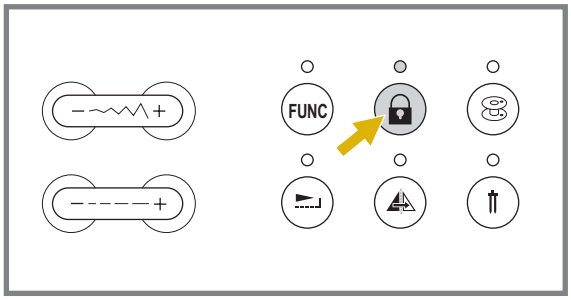
3 Quilt pattern mode (Group 3-C)- Press "FUNC", then 3, and then pattern number by using the numbered buttons.

4 Decorative pattern mode (Group 4-D)- Press "FUNC", then 4, and then pattern number by using the numbered buttons.

5 Block letter mode - Press "FUNC", then 5, and then pattern number by using the numbered buttons.

6 Script letter mode - Press "FUNC", then 6, and then pattern number by using the numbered buttons.

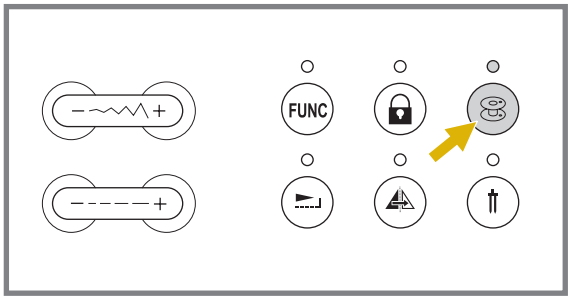
Key lock button



Press the " " button to lock the Function and Selection buttons. Press the " " button again to unlock. Lock buttons to prevent stitch settings from accidentally being changed.

Attention: *While the key lock button is locked the Function and Selection buttons cannot be operated.*

Bobbin winding button



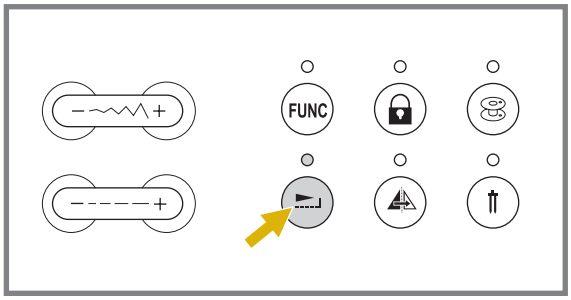
Put the empty bobbin on the bobbin winder shaft. Push the bobbin winder switch to the left.

Press the " " button to wind the bobbin.

The LED light will be on while the bobbin is winding.

Bobbin can wind in any operation mode.

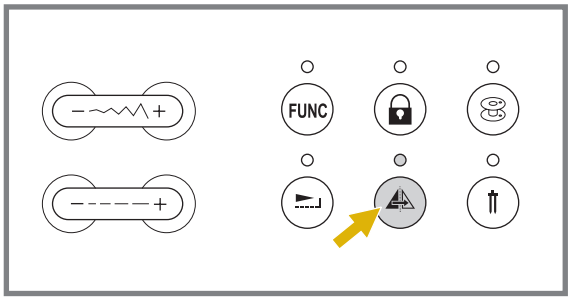
Elongation button



Group 2-B Patterns 58-75 can be elongated up to five times its normal length by pressing the " " button, the LED light will turn on.

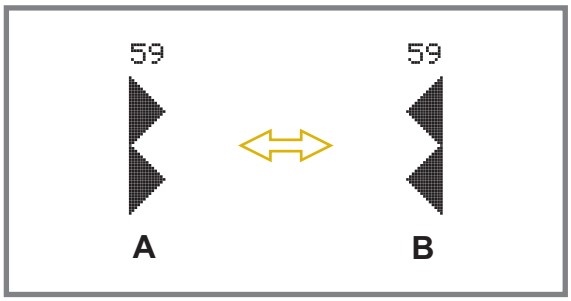
Combine different stitches in this group : change width or length for a greater variety of patterns.

Mirror image button



Pattern can be mirror imaged along a vertical axis by pressing the " " button except for patterns 30-49 from the Group 2-B Patterns.

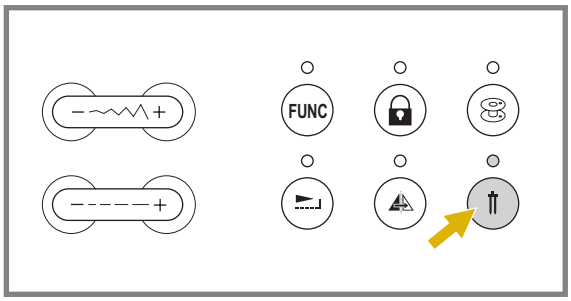
LED light will turn on. The machine will continue to sew the reflected pattern until the mirror image button is pressed again or the pattern is changed.



Mirror imaging the pattern appears on the LCD screen.

A - Normal
B - Mirror imaged

Twin needle button



Patterns can be sewn in two parallel lines of the same stitch with the twin needle.

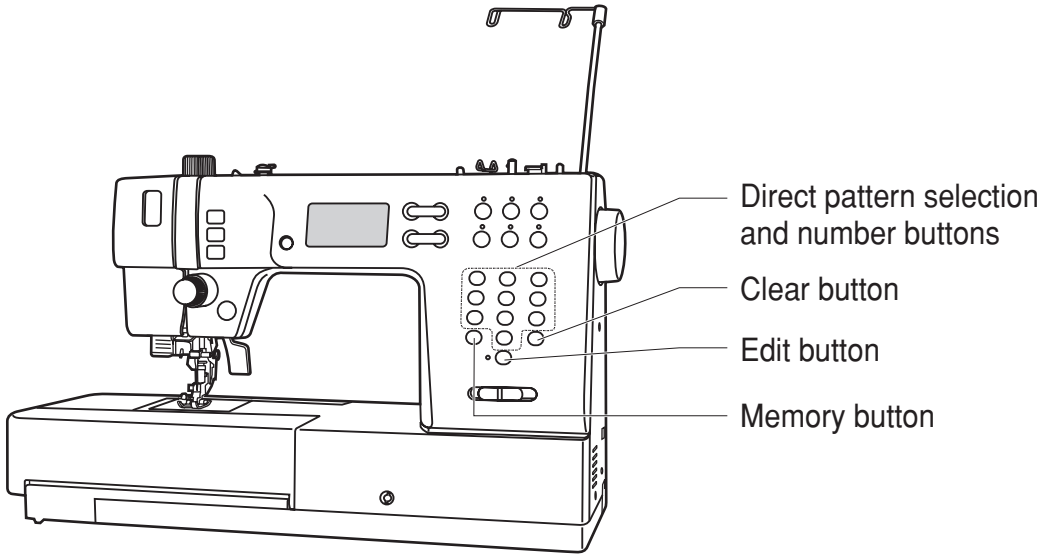
Press the " " button, LED light will turn on, and the machine automatically reduces the maximum width for the twin needle sewing by 2mm.

When using some straight stitches and the needle position is set below 2.0, the width will automatically move to 2.0mm.

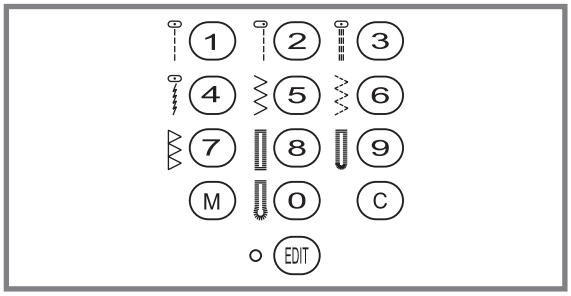
Press the button again to return to single needle sewing.

***Note**: Group 1-A pattern 0, 8, 9 and Group 2-B patterns 27-49, Group 4-D patterns 27, 28 cannot be used with twin needle function.*

SELECTION BUTTONS

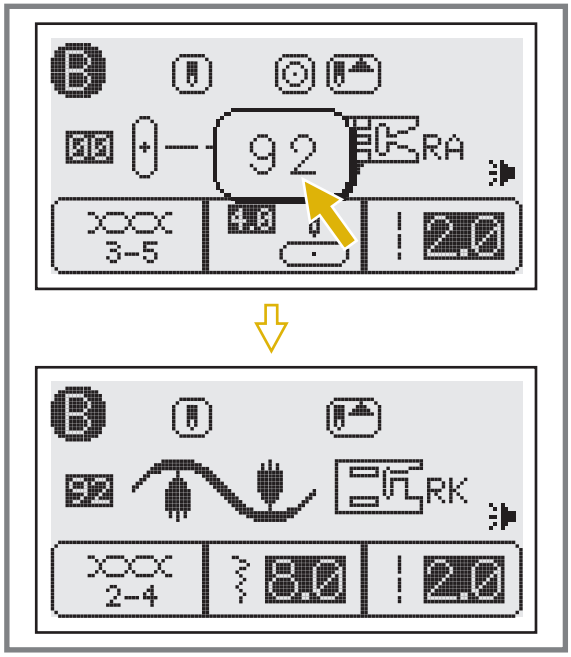


Direct pattern selection and number buttons



Direct pattern selection

Press the numbered button to the right of the utility pattern shown when the mode button (FUNC) is set at the direct mode (1-A).



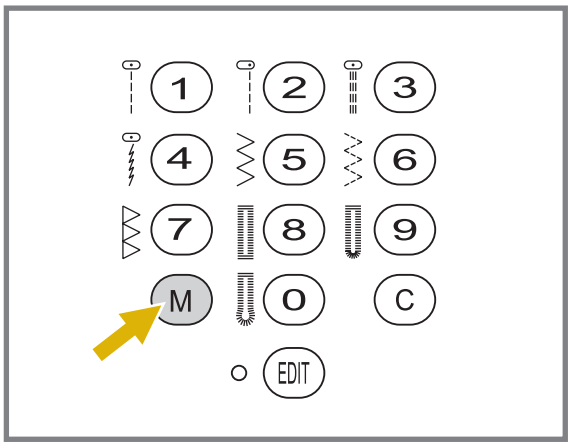
Number buttons

To select a pattern other than direct mode 1-A :

Press the "FUNC" button and enter the number of pattern group (see page 11). Then press the two numbers of the desired pattern from the stitch chart.

For example: For Group 2-B press FUNC then button 2. Press 92.

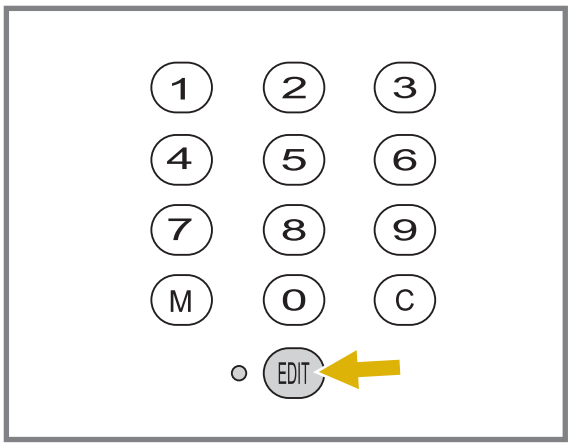
Memory button



Press the "(M)" button to enter the memory mode. Select up to 8 memories for storing combinations of characters and decorative stitches.
Up to 20 patterns can be combined in each memory. Use the stitch width " + " and "–" button to scroll through the pattern combination memorized. Press the " (M) " button again to exit the memory mode.
See page 82 for details.

Note: *Direct Patterns, Group 2-B patterns 27-49 and Group 3-C pattern 00 cannot be memorized.*

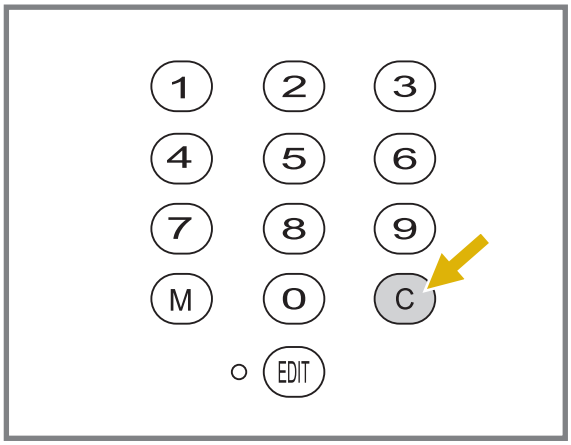
Edit button



If you wish to modify the pattern settings in the memory mode, use the stitch width "+" or "–" button to select the pattern to be modified. Press the " (EDIT) " button to enter the editing mode , the LED light will turn on.

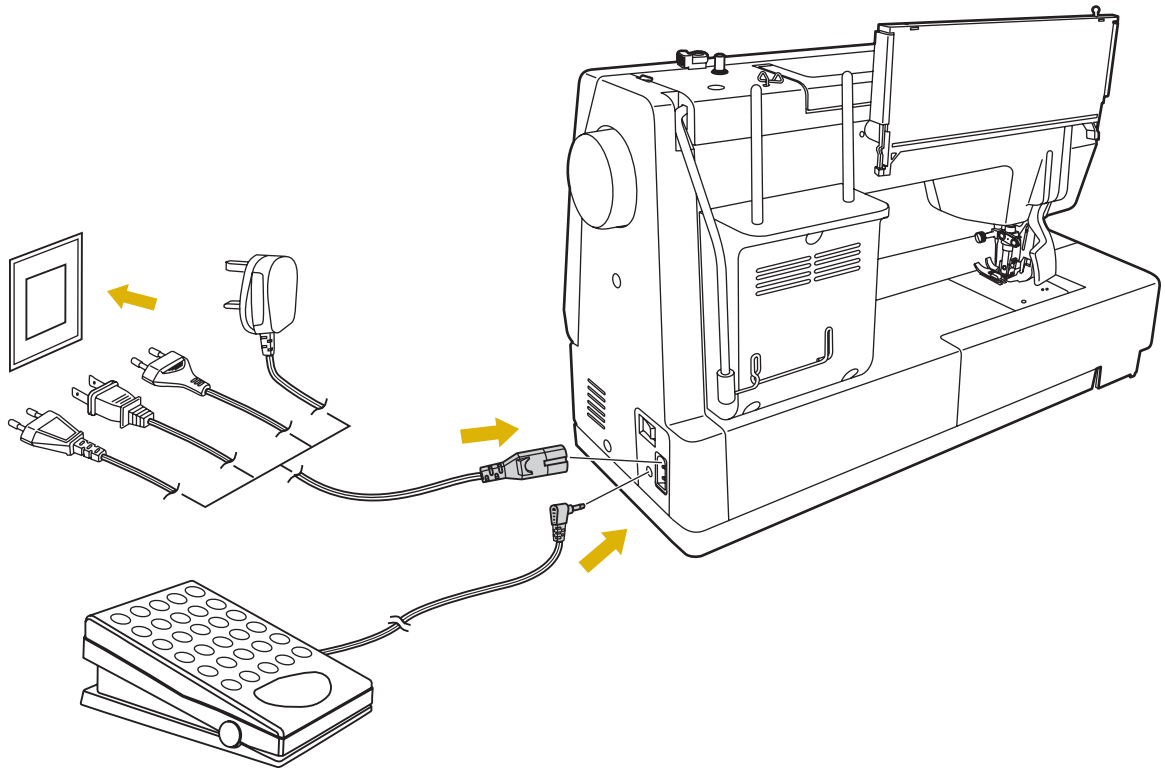
Manual setting function of the stitch width, stitch length, mirror and Auto-lock for these memorized patterns can be changed. Press the " (EDIT) " button again to exit the editing mode. See page 84 for details.

Clear button



When combining characters or decorative patterns, press the " (C) " button to clear or erase one character or pattern. See page 84 for details.

CONNECTING THE MACHINE TO THE POWER SOURCE



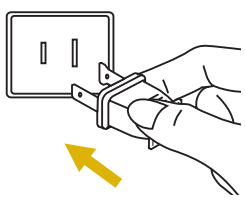
Connecting the machine

Before connecting the power supply, make sure that the voltage and the frequency shown on the machine is conforming to your electrical power.

Place the machine on a stable table.

1. Connect the power cord to the machine by inserting the plug into the power supply connector.
2. Connect the power cord plug to the electrical outlet.
3. Insert foot control plug into the foot control connector on machine.
   * The appliance must be used with foot control C-9001.

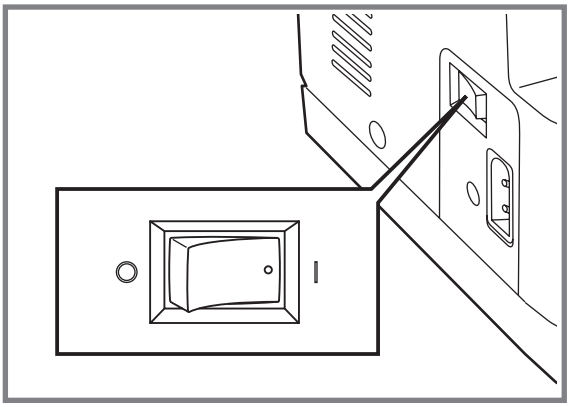
⚠ ***Caution:*** *Never leave machine unattended when plugged in.*
Always unplug this machine from the electrical outlet immediately after using and before maintenance.



Polarized plug information

This appliance has a polarized plug (one blade wider than the other), to reduce the risk of electrical shock; this plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician. Do not modify the plug in any way. (For U.S.A. only)

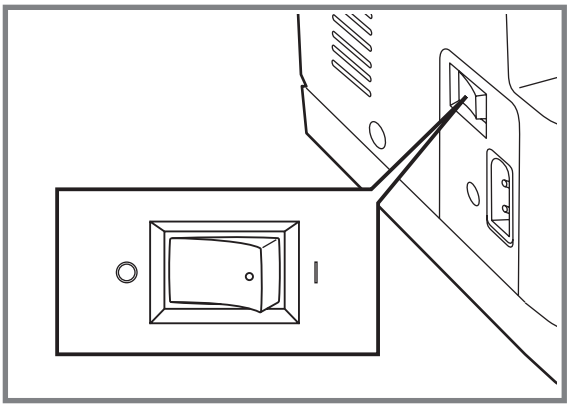
TURN MACHINE ON/ OFF



Turn on the machine

Press the right side of the main power switch on the right side of the machine, the power switch is ON (" I ") .

The lamp comes on when the machine is turn on.



Turn off the machine

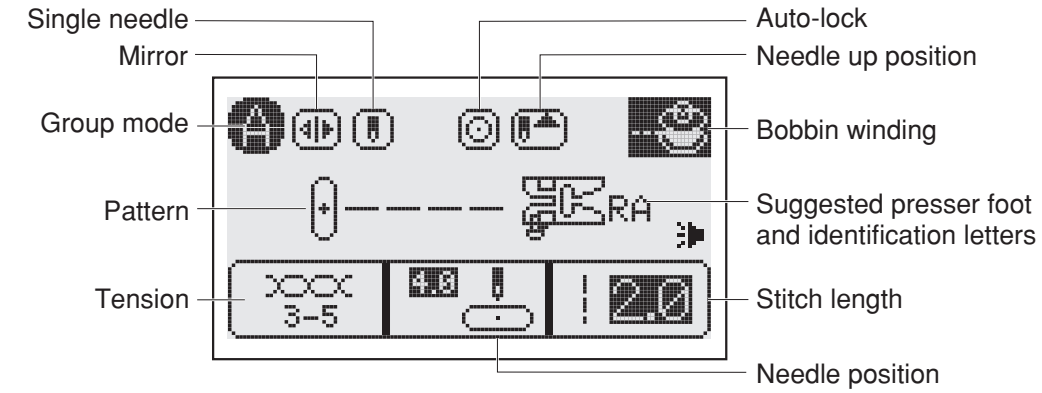
When you are finished using the machine, turn it off. In addition, before transporting the machine to another location, be sure to turn it off.

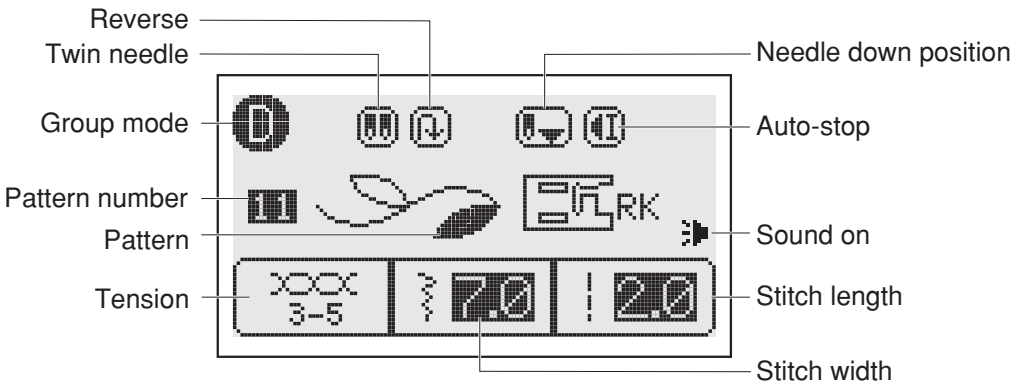
1. Make sure the machine is not sewing.
2. Press the left side of the main power switch on the right of the machine, the power switch is OFF ("O") .
   The lamp goes off when the machine is turn off.
3. Unplug the power supply cord from the power supply jack.

Note: *If a power outage occurs while the machine is being operated, turn off the machine and unplug the power supply cord.*
When restarting the machine, follow the necessary procedure to correctly operate the machine.

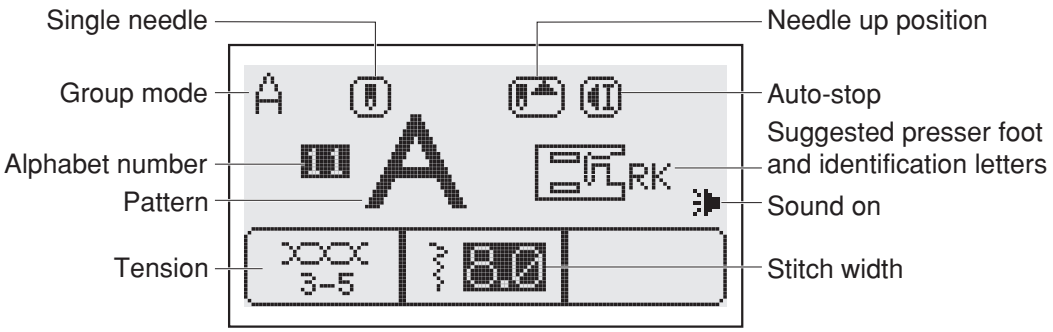
UNDERSTANDING THE LCD SCREEN

Pattern

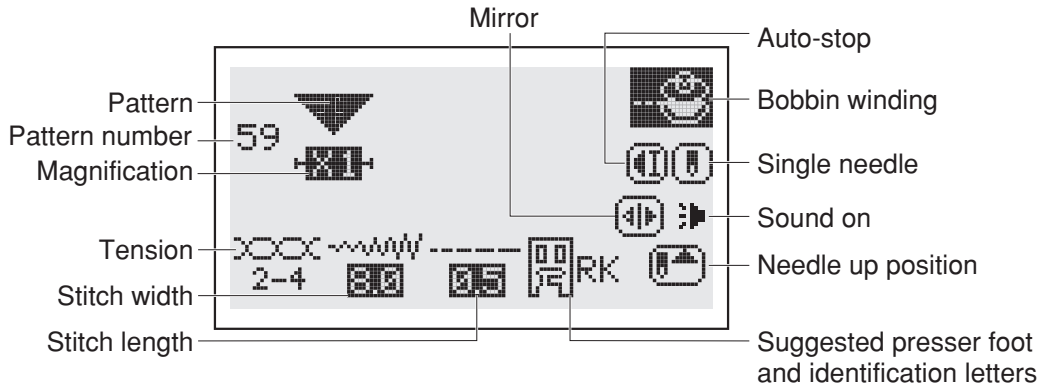




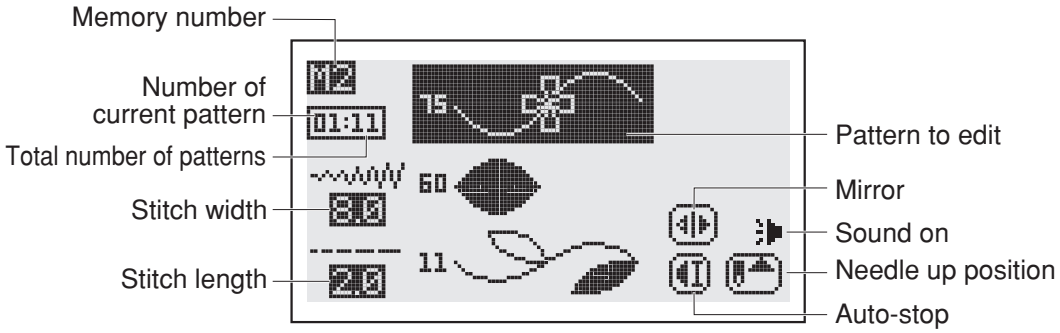
Alphabet



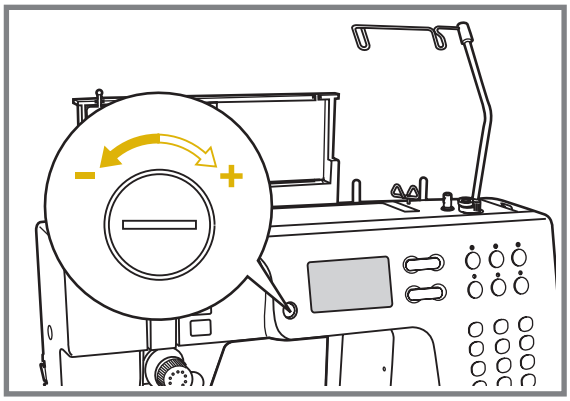
Elongation



Memory



LCD SCREEN BRIGHTNESS CONTROL



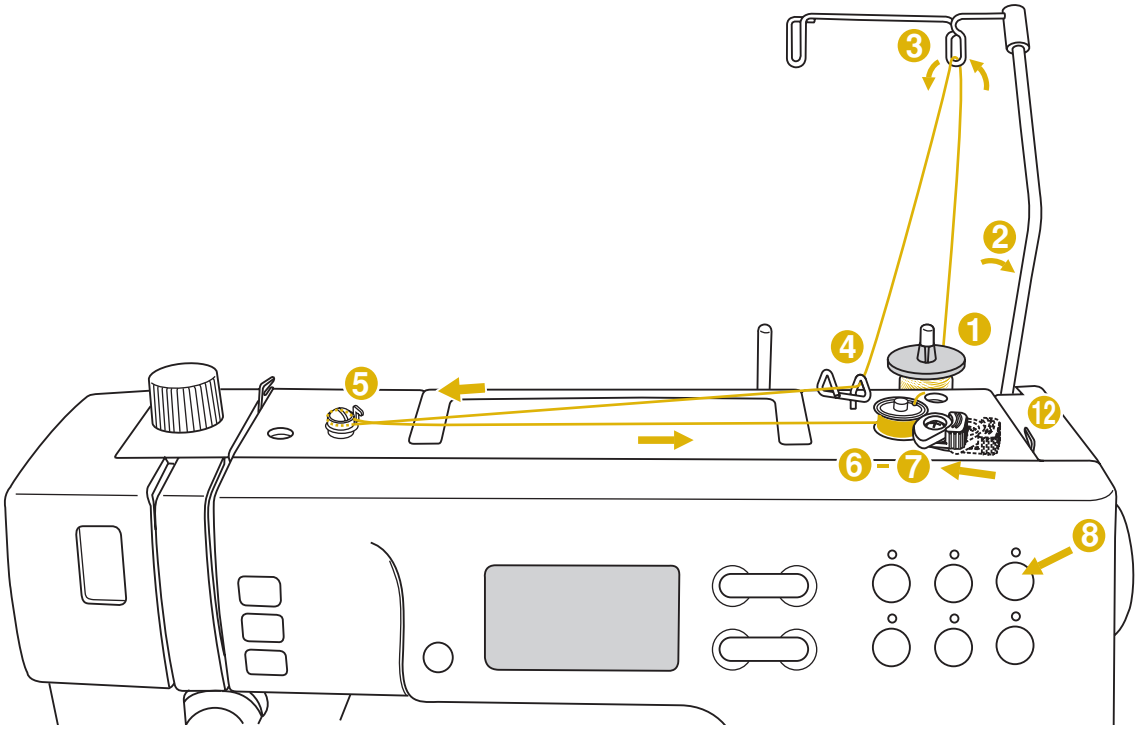
The LCD screen brightness control dial is located at the left of LCD screen. Use this to dial adjust the sharpness of the LCD screen.

If no indication is shown on the screen after switching on the power, adjust the LCD screen brightness with the dial.

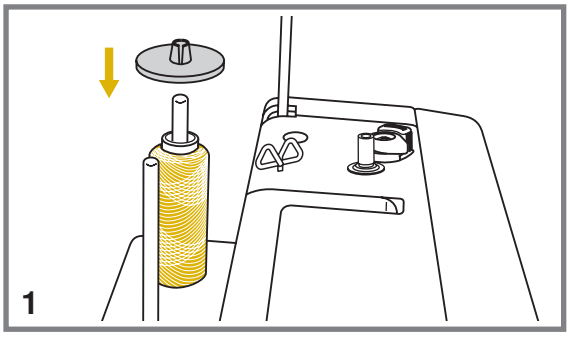
LCD screen brightness : Turn the dial to the right toward the "+".
LCD screen darkness : Turn the dial to the left toward the "–".

WINDING THE BOBBIN

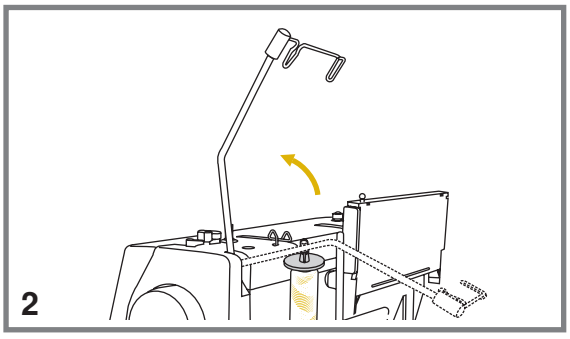
Note: *Due to the independent bobbin winder motor, you can wind the bobbin during sewing. Follow the steps for "Winding The Bobbin" except place the thread for the bobbin through the thread guide opening not in use being careful not to tangle thread.*



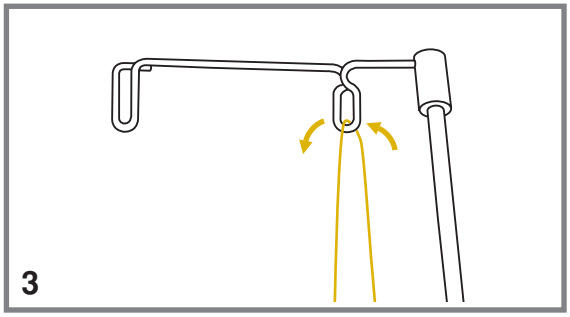
Bobbin winding



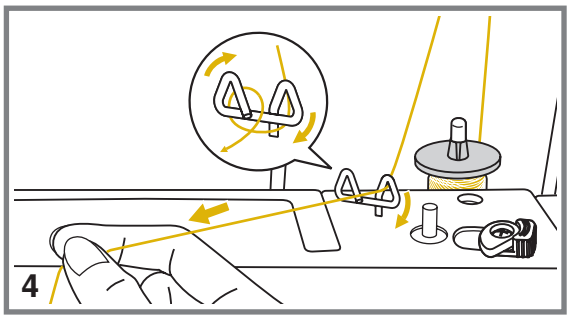
1. Place the spool of thread and spool cap onto the spool pin. For smaller spools of thread, use the small spool cap.
   Spool cap should be close in size to the thread spool, however should not be any smaller. If the spool cap is smaller than thread spool, thread may get caught in the slit on end of spool and cause damage.



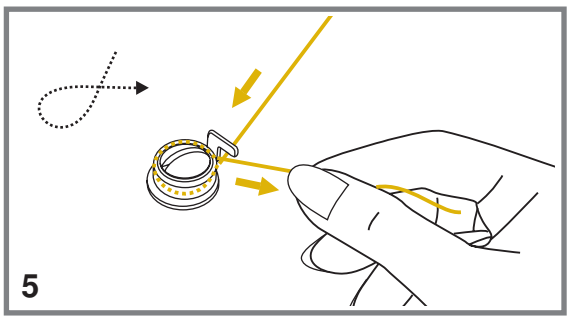
2. Bring the hinged thread guide up and forward into the upright position.



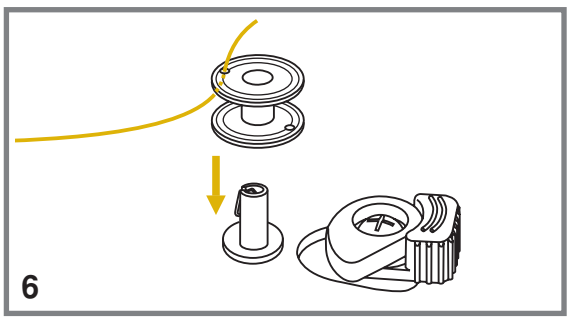
3. Place the thread through the thread guide above the spool of thread from back to front.



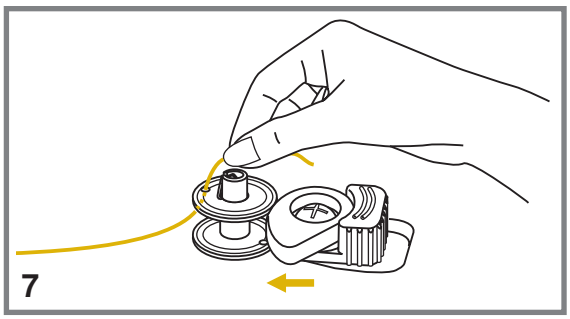
4. Place the thread through the appropriate thread guide opening for the spool pin that is being used.



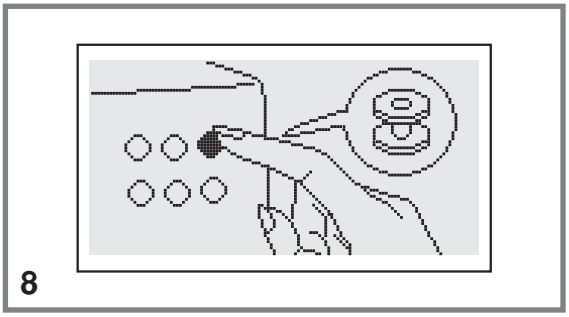
5. Pass the thread clockwise around the bobbin winder tension discs as illustrated.



6. Place the thread end through one of the inner holes in the bobbin as illustrated and place the empty bobbin on the bobbin winder shaft.

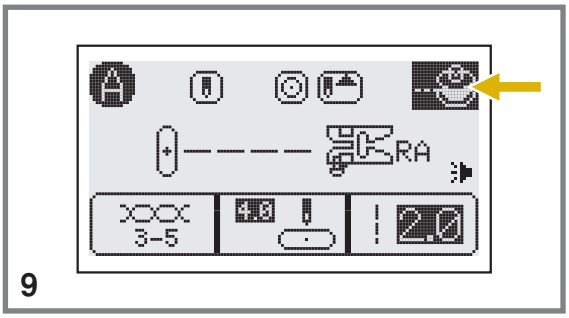


7. While holding the thread tail securely in one hand, push the bobbin winder switch to the left.



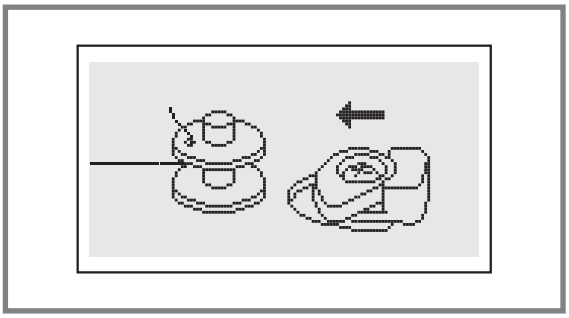
8

8. Press the bobbin winding button.

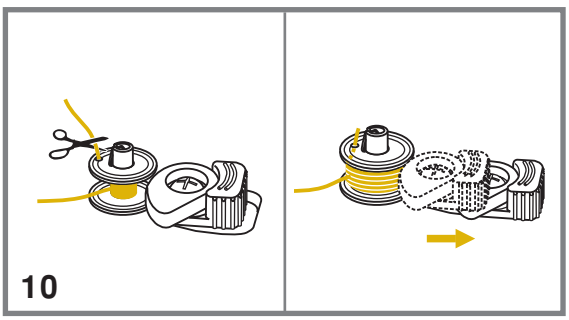


9

9. When the bobbin winder switch is pushed to the left and bobbin winder button is pressed, the LCD screen will display the animation of the bobbin winding.



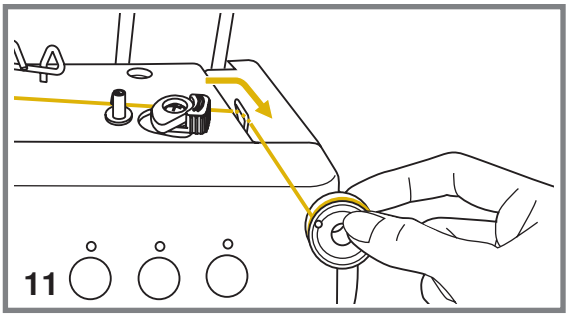
Note: *When the bobbin winder button is pushed without pushing the bobbin winder switch to the left, the following screen is displayed for a few seconds.*



10

10. After the bobbin has wound a few turns stop the machine and cut the thread near the hole of the bobbin.

    Continue winding the bobbin until it is full. The motor stops automatically when the bobbin is full.

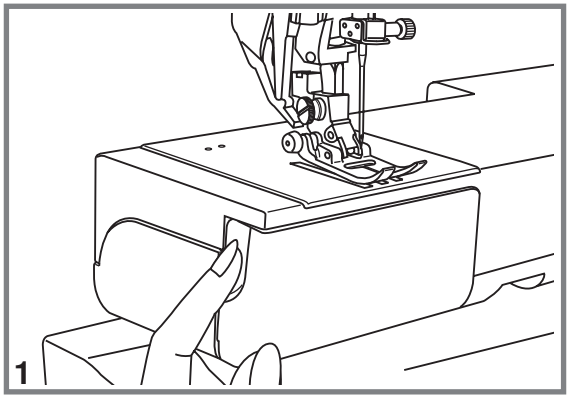


11

11. Remove the bobbin then cut the thread on the thread cutter.

Attention: *Since this machine is equipped with an independent bobbin winder the sewing speed controller does not effect the winding speed. Keep fingers clear of the needle area while winding the bobbin.*

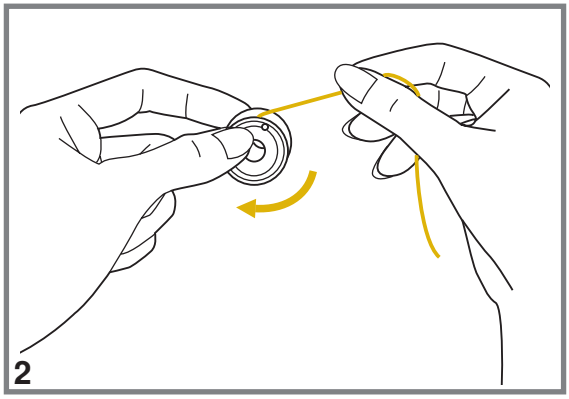
INSERTING THE BOBBIN



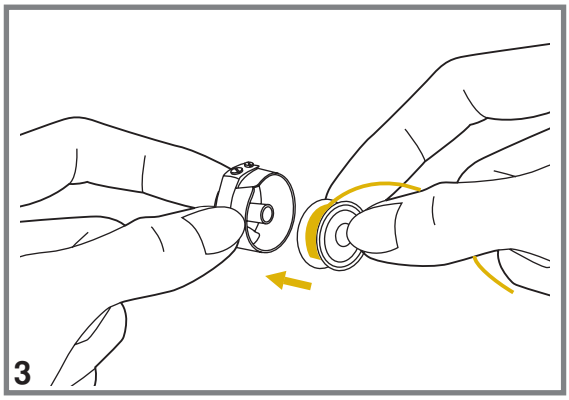
⚠ ***Attention:*** *Turn power switch OFF ("O") before inserting or removing the bobbin.*

Press the needle position button to raise the needle before inserting or removing the bobbin.

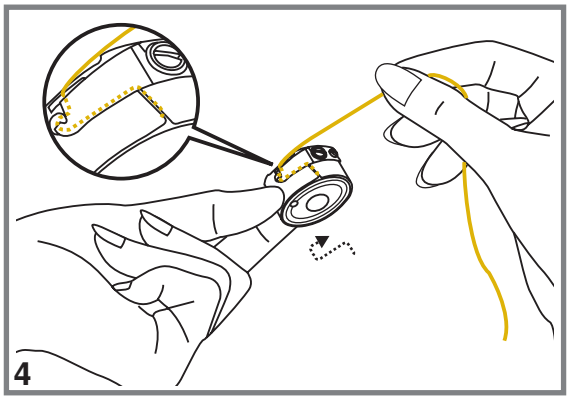
1. Open the hinged cover.



2. It is important to be sure that the bobbin is turning in a clockwise direction (arrow).

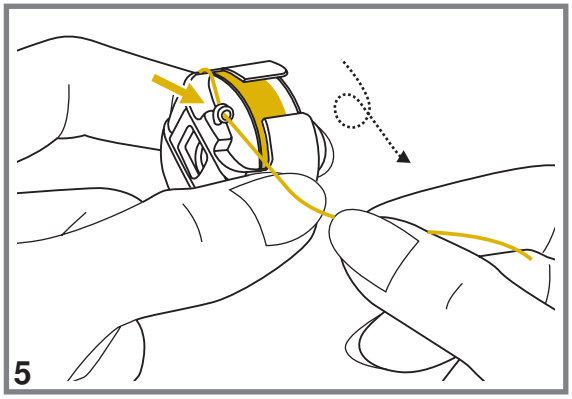


3. Hold the bobbin case with one hand. Insert the bobbin so that the bobbin turns in a clockwise direction.

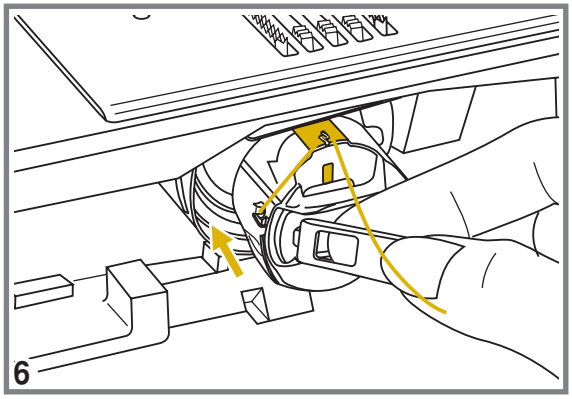


4. Pull the thread through the slot, to the left and then right until it enters the delivery eyelet under the tension spring.

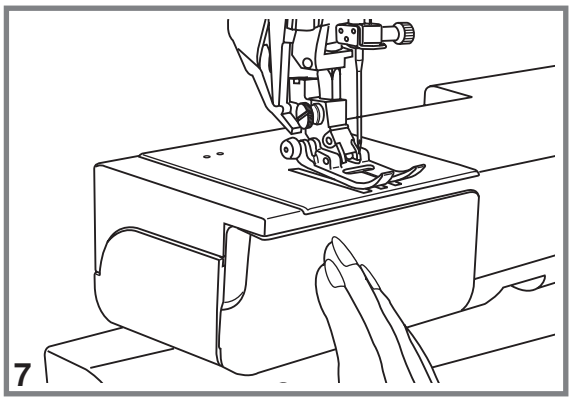
INSERTING THE BOBBIN



5. Pull the bobbin thread through the metal hook using a clockwise motion.

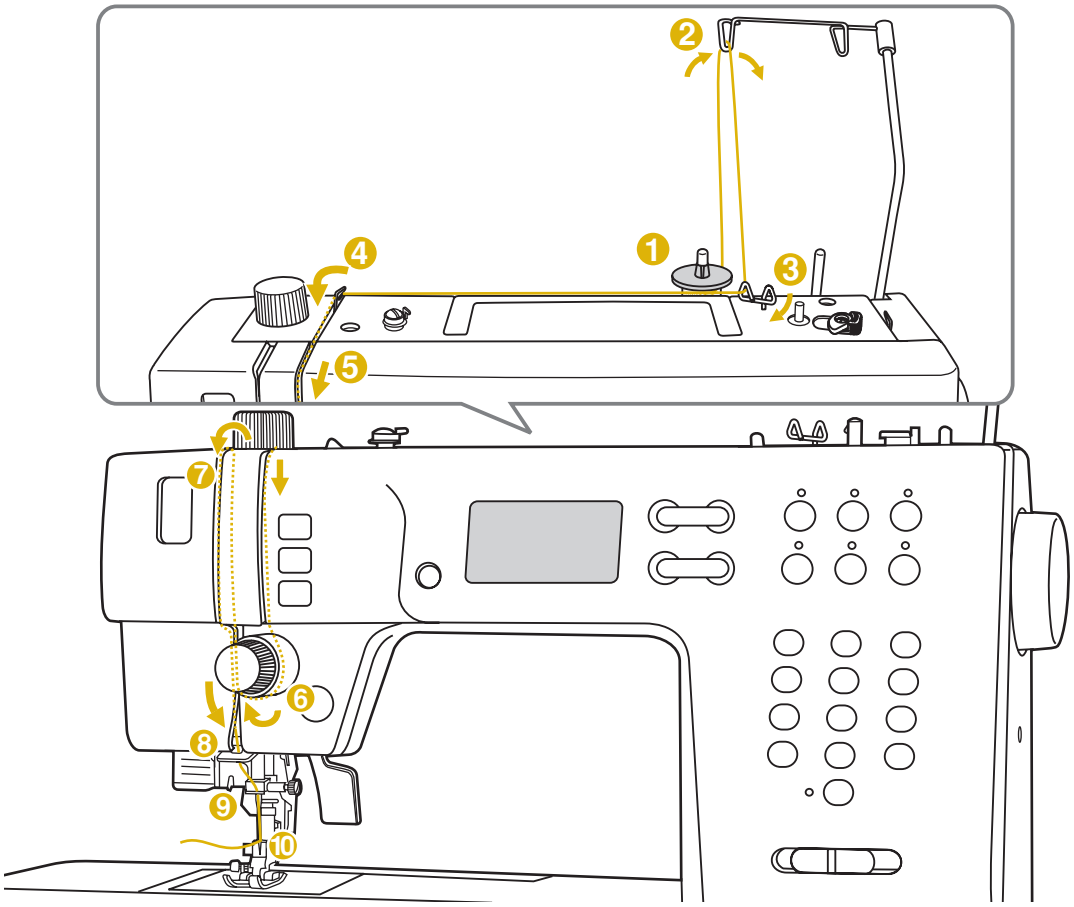


6. Hold the bobbin case by the hinged latch. Insert the bobbin case fully into the shuttle race and release the latch.

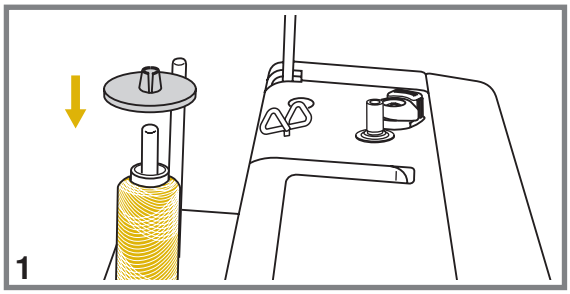


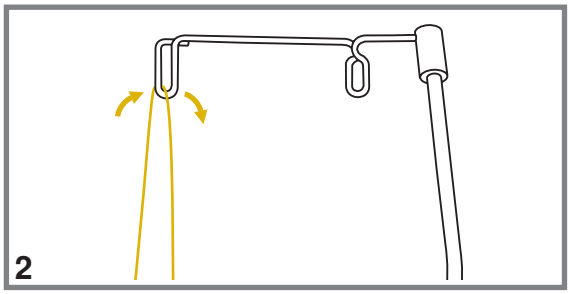
7. Close the hinged cover.

UPPER THREADING



Note: *It is important to thread the machine correctly. Improper threading could result in several sewing problems.*

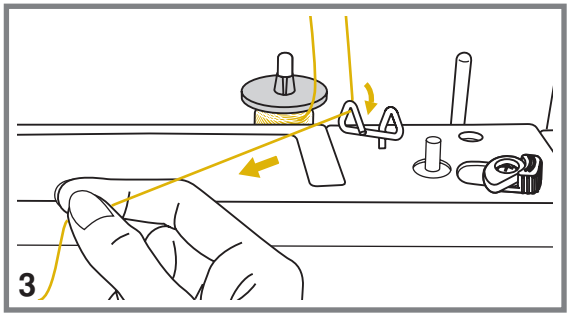




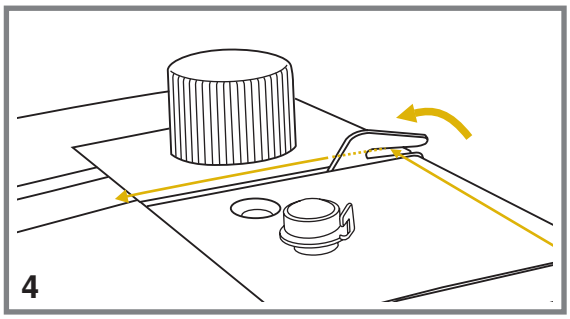
Before threading the machine, raise the needle to its highest point and raise the presser foot to release the tension discs.

1. Slide the spool of thread onto the spool pin so the thread unwinds clockwise from the thread spool. Then position the spool cap on the spool pin to secure the spool of thread.

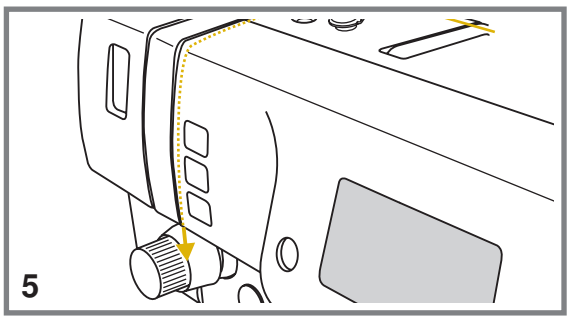
2. Place thread in the thread guide above the spool of thread.



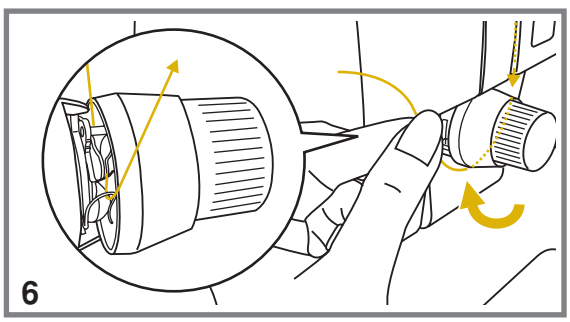
3. Place the thread through the appropriate thread guide opening for the spool pin that is being used.



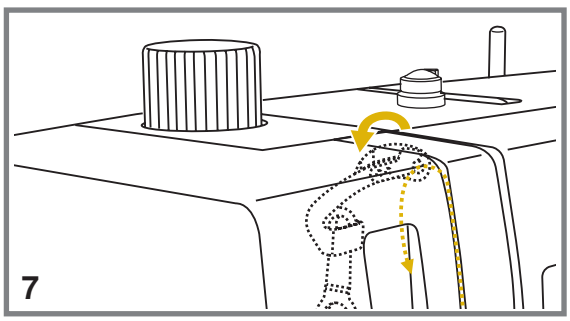
4. Guide the thread into the pre-tension thread guide pulling the thread through the pre-tension spring as illustrated.



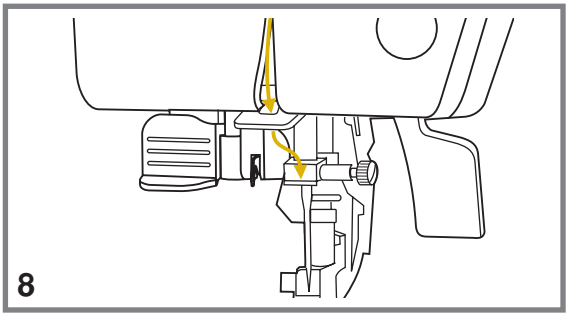
5. Pull the thread downward from the thread guide.



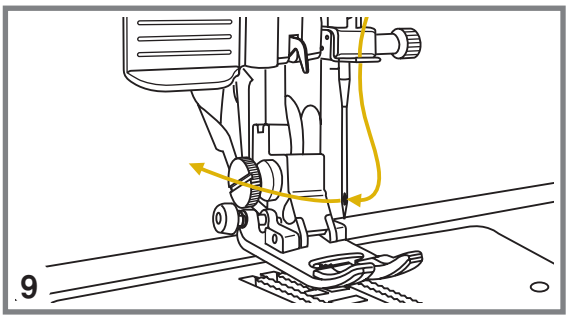
6. Draw the thread down through the right slot and around the tension dial from the right to left. Pull the thread up to insert it between the tension disks and under the wire loop of the check spring.



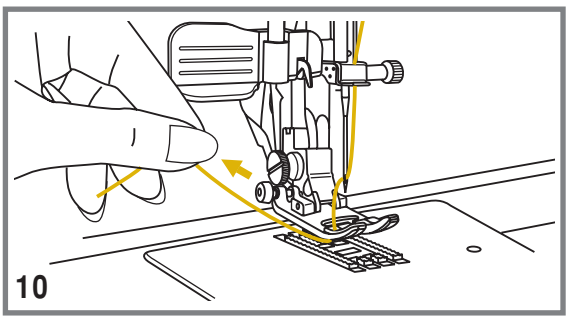
7. Bring the thread up through the left slot and then into the slotted eye of the take-up lever from right to left. Continue by bringing the thread back down through the left slot.



8. Pass the thread behind the flat, horizontal thread guide and then through the thread guide above the needle.

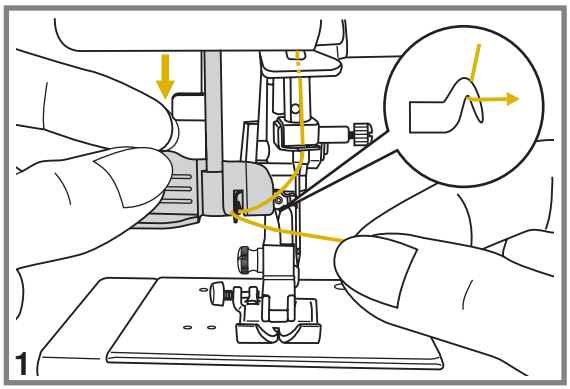


9. Insert the end of the thread through the eye of the needle from front to back or use the needle threader to thread the needle. (See next page for needle threader instructions.)



10. Place the thread under the foot and pull out approximately 15 cm (6 inches) of thread to the back of the machine.

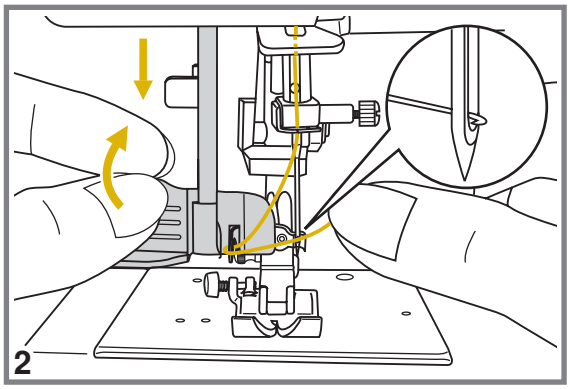
Using the needle threader



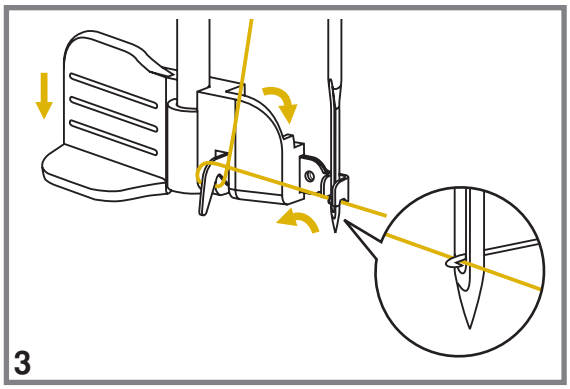
⚠ ***Attention:*** *Turn power switch to the OFF position ("O").*

Raise the needle to its highest position and lower the presser foot.

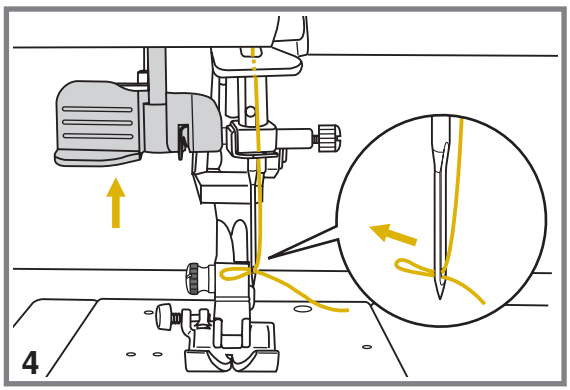
1. Lower the needle threader lever slowly and draw the thread through the thread guide as illustrated and then to the right.



2. Pivot the needle threader into the threading position so the hook pin passes through the needle eye.



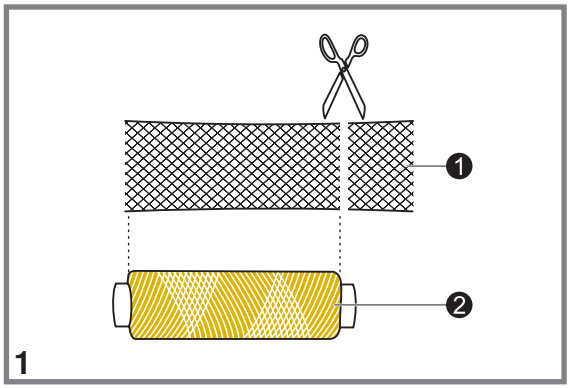
3. Pass the thread in front of the needle to catch the hook of the threader.



4. Hold the thread loosely and return the threader to its original position. The hook will turn and pull the thread through the needle eye forming a loop.

   Pull the loop of thread through the needle eye.

Using the net

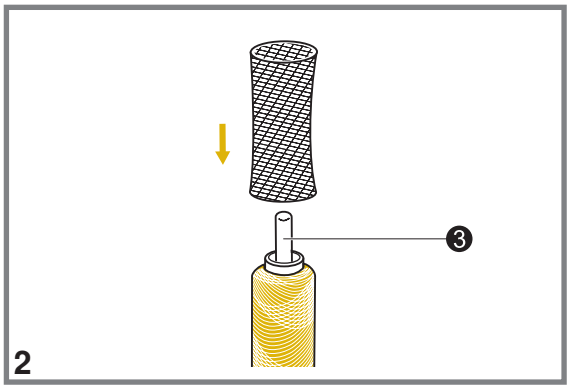


If using special threads which wind quickly off the thread spool, attach a net to the spool before using.

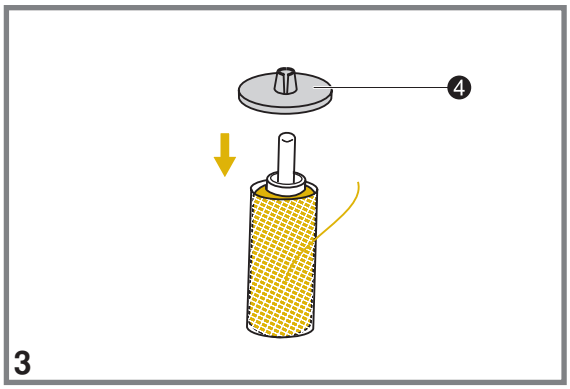
* Cut the net to match the size of the spool.

❶ NET

❷ Thread spool

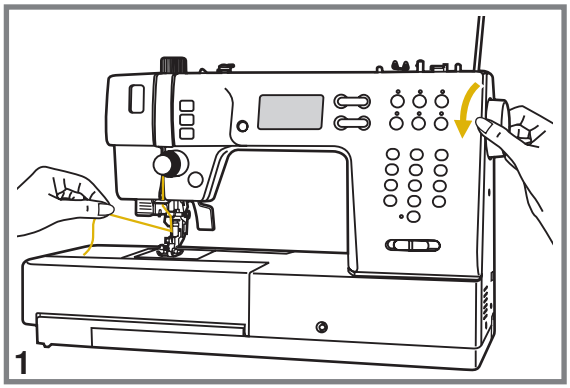


❸ Spool pin

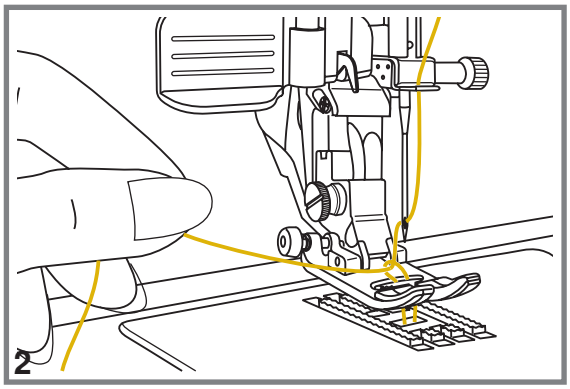


❹ Spool cap

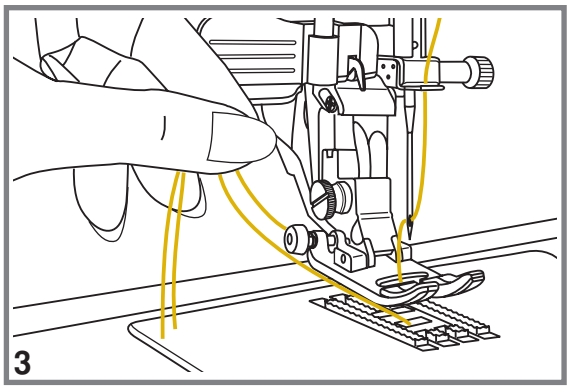
Raising up the lower thread



1. Hold the upper thread with the left hand. Turn the handwheel towards you (counterclockwise) lowering, then raising the needle.

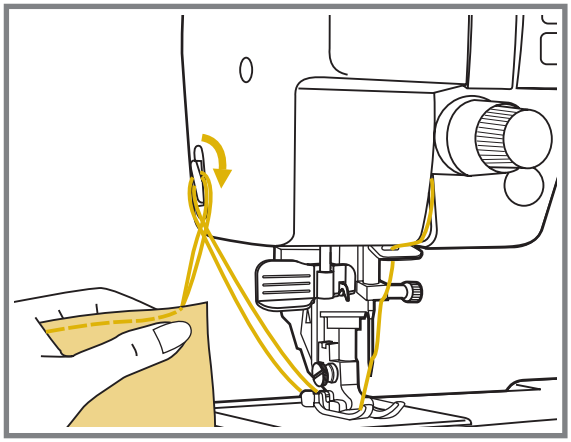


2. Gently pull on the upper thread to bring the bobbin thread up through the needle plate hole. The bobbin thread will come up in a loop.



3. Pull both threads to the back under the presser foot.

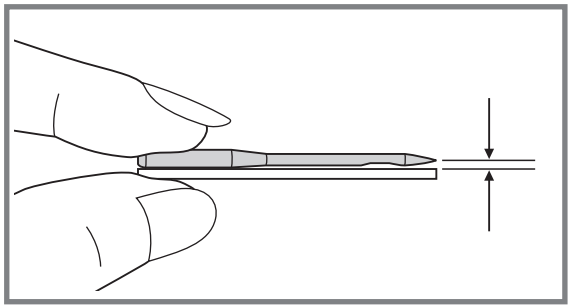
CUTTING THE THREAD



Raise the presser foot. Remove the fabric, draw the threads to the left side of the face cover and cut using the thread cutter.

The threads are cut at the proper length to start the next seam.

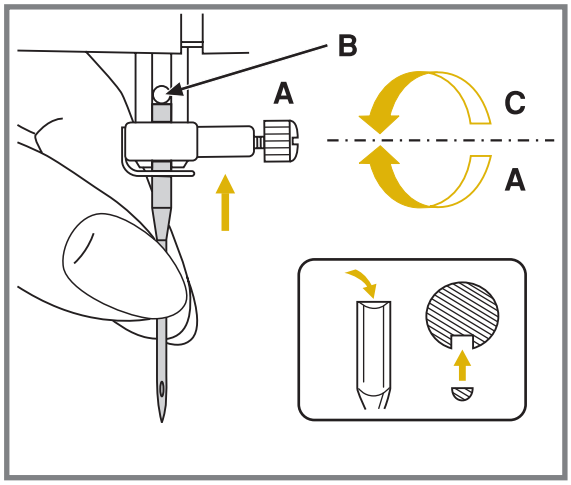
REPLACING THE NEEDLE



⚠ ***Attention:*** *Turn power switch to OFF. ("O") when replacing the needle !*

Change the needle regularly, A bent or damaged needle can cause skipped stitches, damage fabric, and break while sewing.

To check the needle, place the flat side of the needle on a flat surface. Discard any damaged or bent needles.



Before changing the needle, use the handwheel to raise the needle to its highest position.

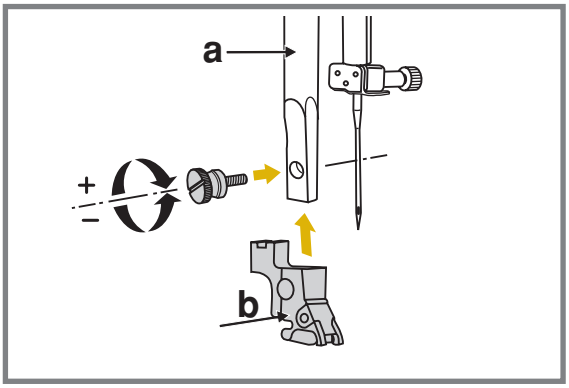
A. Loosen the needle clamp screw and remove the damaged needle.

B. With the flat side of the needle facing the back, insert a new needle up as far as it will go.

C. Securely tighten the needle clamp screw.

CHANGING THE PRESSER FOOT

Attaching the presser foot holder

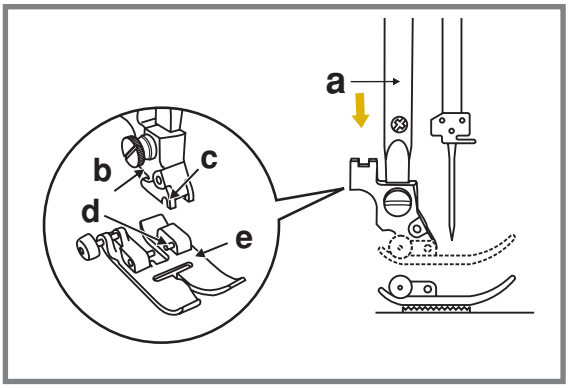


⚠ ***Attention:*** *Turn power switch to OFF ("O") when carrying out any of the following operations!*

Raise the presser foot bar (a).

Position the presser foot holder (b) in place and attach as illustrated.

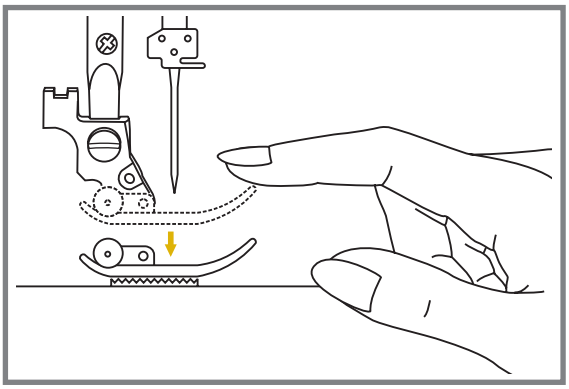
Attaching the presser foot



Lower the presser foot holder (b) until the notch (c) is directly above the pin (d).

Lower the presser foot holder (b) and the presser foot (e) will engage automatically.

Removing the presser foot

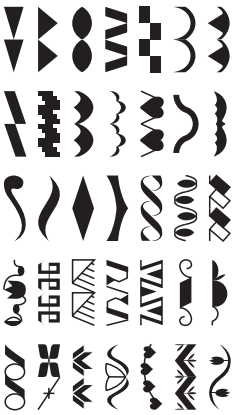
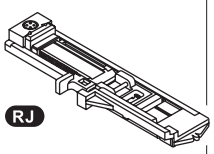
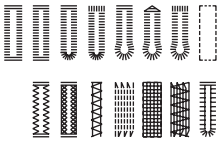


Raise the presser foot.

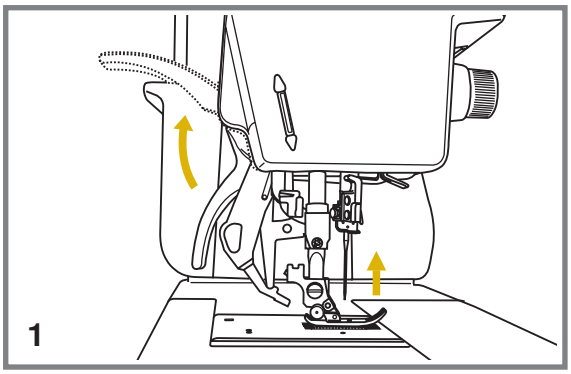
Press down on the front of the presser foot by hand.

The foot will disengage.

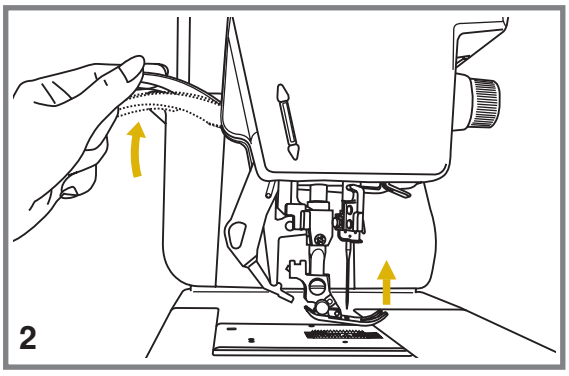
Type of presser foot chart
(double needle is being suggested for certain stitches for more creativity)

PRESSER FOOT	APPLICATION	NEEDLE	PRESSER FOOT	APPLICATION	NEEDLE
RA All purpose foot with PDQ®	General sewing, Patchwork stitches, Decorative stitching, Smocking, Fagoting, etc.		RK Satin stitch foot	Satin stitch sewing, Decorative stitching. 	
RB Zipper foot with PDQ®	Inserting zippers		RN Open toe foot with PDQ®		
 RJ Buttonhole foot	Buttonhole sewing 		RF Quilting foot with PDQ®	Quilting	
RH Cording foot with PDQ®	Cording		RL Free motion darning foot	Darning Free embroidery Monogramming	
RI Overcasting foot with PDQ®	Overcasting		RX Free motion open toe Darning foot		
RM Blind hem foot with PDQ®	Blind hem stitching		RD Gathering foot	Gathering	
RG Hemmer foot with PDQ®	Narrow hemming		RE 1/4" inch quilting foot with PDQ®	Button sewing	
				Quilt and patchwork sewing	

Two-step presser foot lifter



1. The presser foot lever raises and lowers your presser foot.

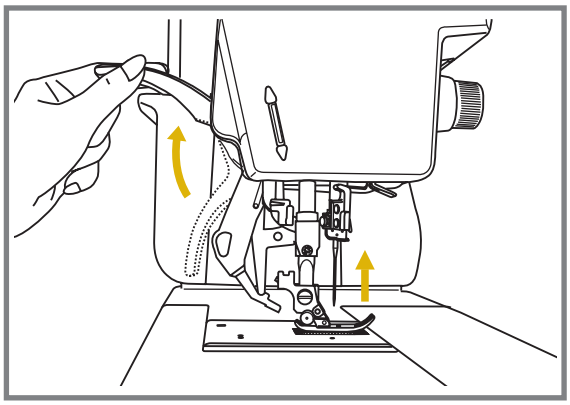


2. When sewing several layers or thick fabrics, the presser foot can be raised a second stage for easy positioning of the work.

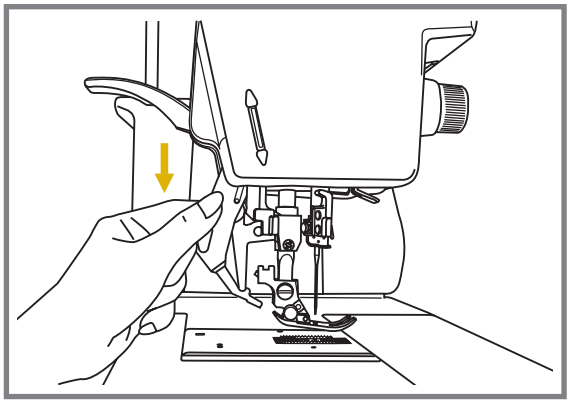
PRECISION DUAL-FEED QUILTING (PDQ®)

The PDQ® system feeds fabric from the top and bottom simultaneously to ensure matching of checked, striped or plaid fabrics. When sewing light or difficult materials such as silk or rayon fabrics, the PDQ® system prevents seam puckering.

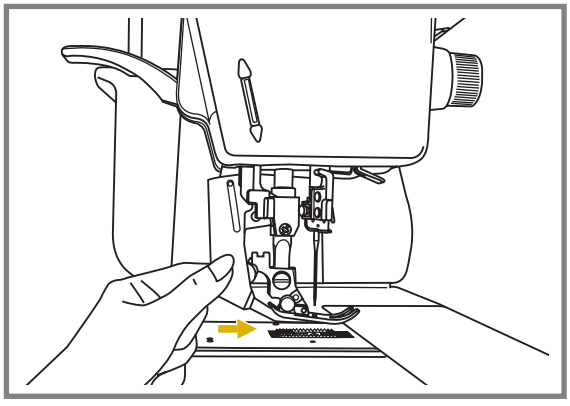
To engage the PDQ® system



Raise the presser foot.



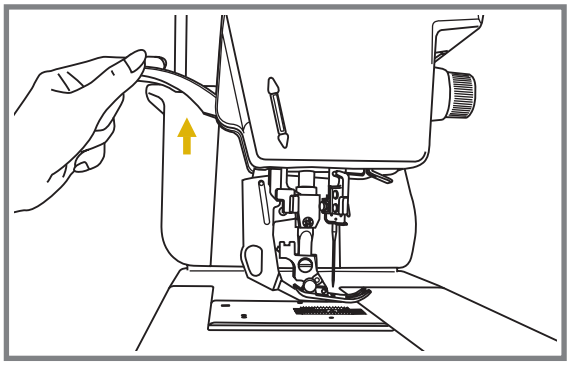
Lower the PDQ® mechanism slowly.



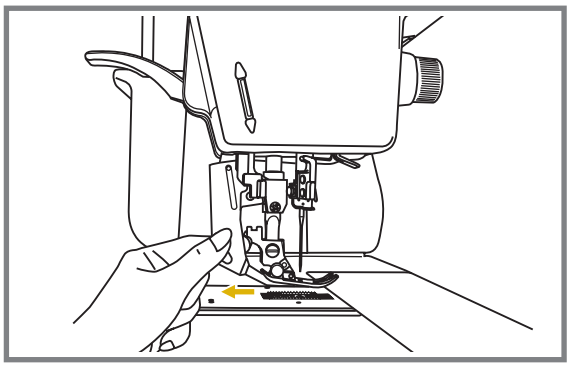
Swing the PDQ® mechanism forward under the back of the presser foot until it is engaged and stays in the lowered position.

Attention: *Only use presser feet with the back opening when engaging the* PDQ® *mechanism.*

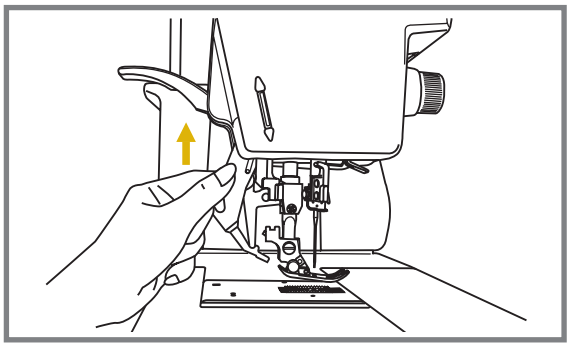
To disengage the PDQ® system



Raise the presser foot.

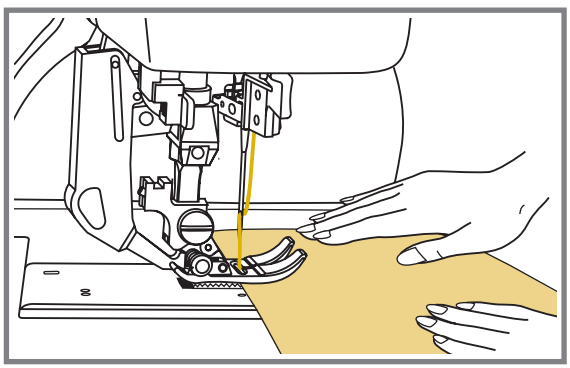


Pull down the PDQ® mechanism and swing it to the rear to disengage.



Push the PDQ® mechanism up.

Fabric positioning



Place fabric flat on top of needle plate and position the fabric under presser foot.

While holding the thread tails with left hand turn handwheel with right hand to insert the needle into the fabric. Lower the presser foot and make 3-4 stitches.

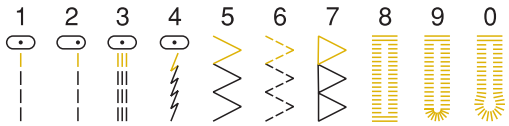
Place hands on each side of the presser foot and gently guide the fabric while sewing.

PATTERN CHART

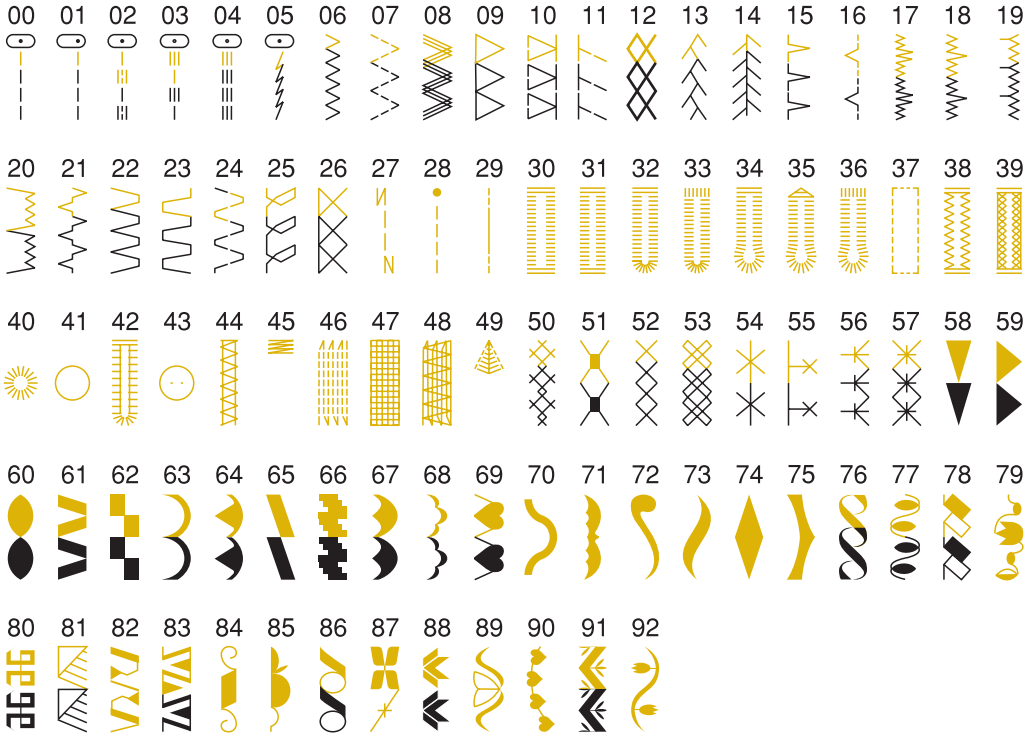
On the chart below the portion marked in gold shows a single unit of each pattern.

Patterns

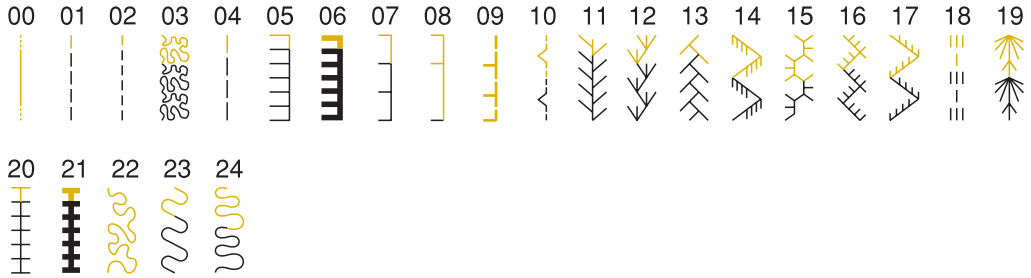
Group 1-A Patterns (Direct Patterns) -10



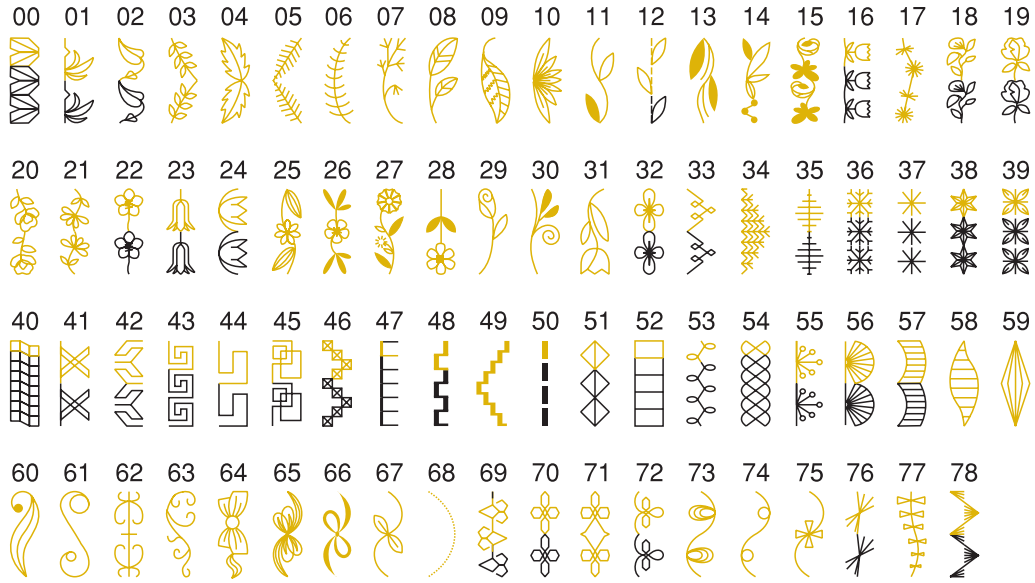
Group 2-B Patterns-93



Group 3-C Patterns-25



Group 4-D Patterns-79



Alphabets

Block style

01	02	03	04	05	06	07	08	09	10																		
1	2	3	4	5	6	7	8	9	0																		
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z		
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62		
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z		
63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78												
_	.	’	,	!	-	+	=	&	÷	?	%	(	)	[	]												

Script style

01	02	03	04	05	06	07	08	09	10																		
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*0*																		
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		
A	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*	*K*	*L*	*M*	*N*	*O*	*P*	*Q*	*R*	*S*	*T*	*U*	*V*	*W*	*X*	*Y*	*Z*		
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62		
a	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*	*k*	*l*	*m*	*n*	*o*	*p*	*q*	*r*	*s*	*t*	*u*	*v*	*w*	*x*	*y*	*z*		
63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78												
_	.	’	,	!	-	+	=	&	÷	?	%	(	)	/	/												

MATCHING NEEDLE/ FABRIC/ THREAD

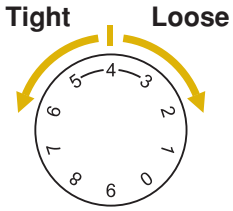
NEEDLE, FABRIC, THREAD SELECTION GUIDE

NEEDLE SIZE	FABRICS	THREAD
9-11 (70-75)	Lightweight fabrics-thin cottons, voile, serge, silk, muslin, interlocks, cotton knits, tricot, jerseys, crepes, woven polyester, shirt & blouse fabrics.	Light-duty thread in cotton, nylon, polyester or cotton wrapped polyester.
12-14 (80-90)	Medium weight fabrics-cotton, satin, sailcloth, double knits, lightweight woollens.	Most threads sold are medium size and suitable for these fabrics and needle sizes. Use polyester threads on synthetic materials and cotton on natural woven fabrics for best results. Always use the same thread on top and bottom.
14 (90)	Medium weight fabrics-cotton duck, woolen, heavier knits, terrycloth, denims.	
16 (100)	Heavyweight fabrics-canvas, woolens, quilted fabrics, denims, upholstery material (light to medium).	Heavy duty thread.

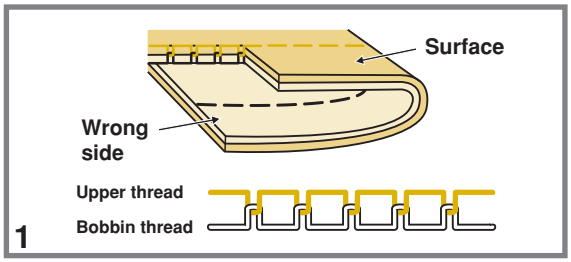
Note:

- *In general, fine threads and needles are used for sewing fine fabrics, and thicker threads are used for sewing heavy fabrics.*
- *Always test thread and needle size on a small piece of fabric which will be used for actual sewing.*
- *Use the same thread for needle and bobbin.*

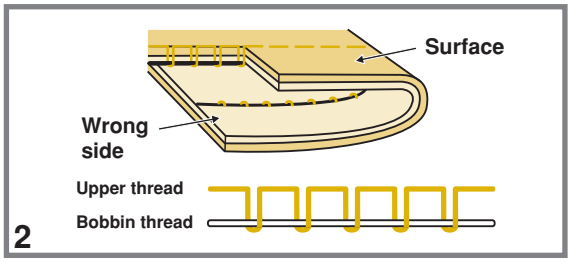
THREAD TENSION



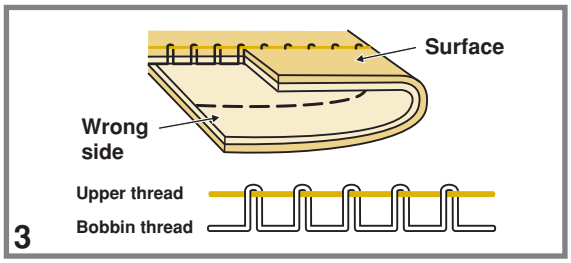
- Basic thread tension setting: "4"
- To increase the tension, turn the dial to the next number up. To reduce the tension, turn the dial to the next number down.
- Proper setting of tension is important to good sewing.
- There is no single tension setting appropriate for all the stitch functions and fabrics.
- 90% of all sewing will be between "3" and "5" ("4" is basic setting).
- For all decorative sewing you will always obtain a nicer stitch and less fabric puckering when the upper thread appears slightly on the bottom side of your fabric.



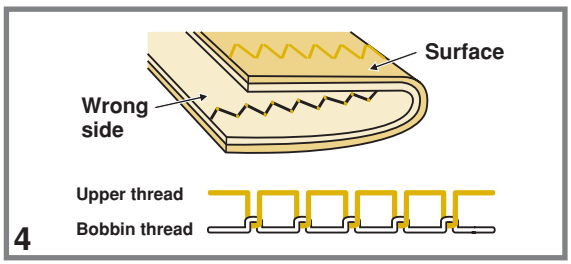
1. Normal thread tension for straight stitch sewing.



2. Upper thread tension is too loose for straight stitch sewing. Turn dial to higher number to tighten the upper tension.



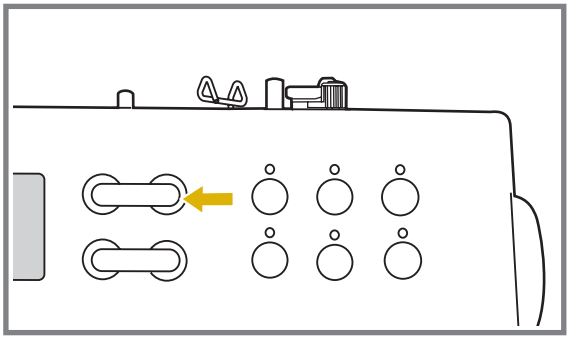
3. Upper thread tension is too tight for straight stitch sewing. Turn dial to lower number to reduce the upper tension.

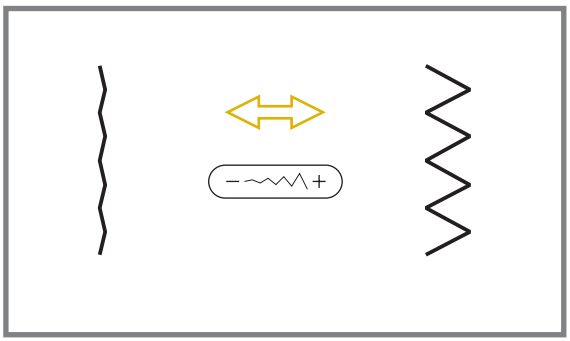


4. Thread tension for zigzag and decorative sewing should be slightly looser on the upper thread stitching for the fabric to lay flat and to avoid puckering of fabric.

LENGTH & WIDTH ADJUSTING

Stitch width adjusting

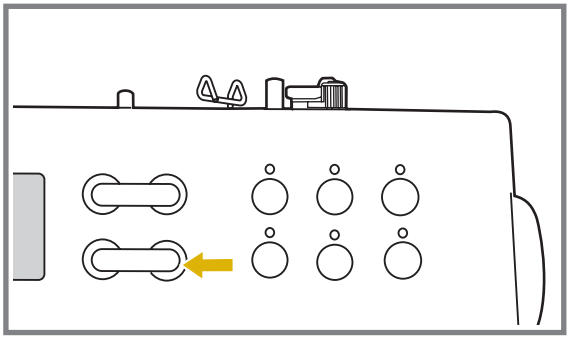


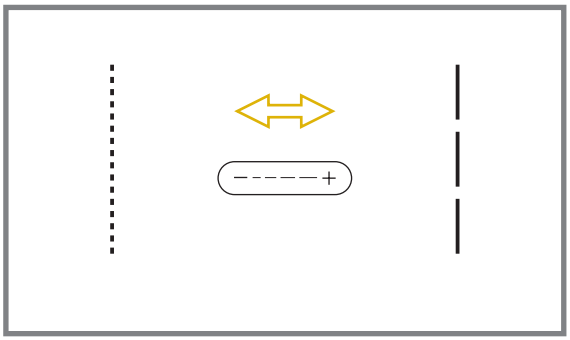


For a narrower stitch, press the left side of the button "–". For a wider stitch, press the right side of button "+". The stitch width can be adjusted between "0.0-8.0".

Certain stitches have a limited stitch width. (See "Stitch reference chart " on page 93.)

Stitch length adjusting



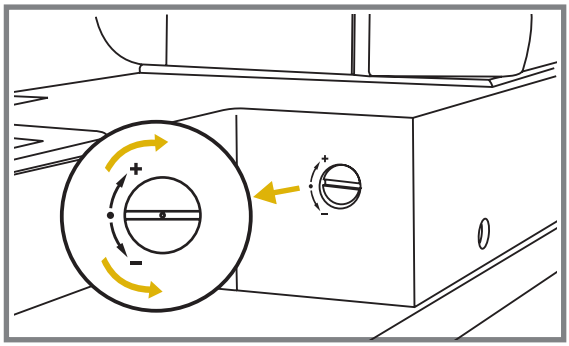


For a shorter stitch, press the left side of the button "–". For a longer stitch, press the right side of button "+". The stitch length can be adjusted between "0.0-5.0".

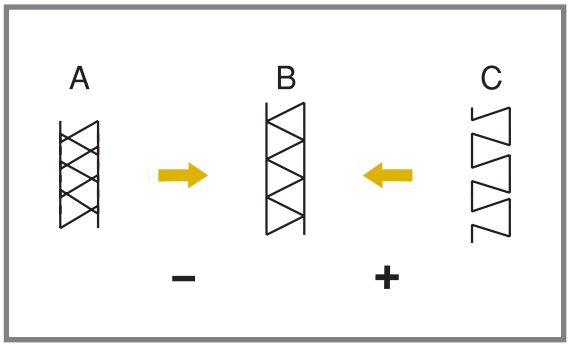
Note: *Certain stitches have a limited stitch length range.*

PATTERN BALANCE ADJUSTMENT

If the decorative stitch patterns, numbers or manual buttonhole stitch are uneven when you sew on a particular fabric, adjust them with the pattern adjustment dial. Use a coin to turn the dial slightly towards the "+" or "–".



The pattern adjustment dial normally should be in the horizontal position.

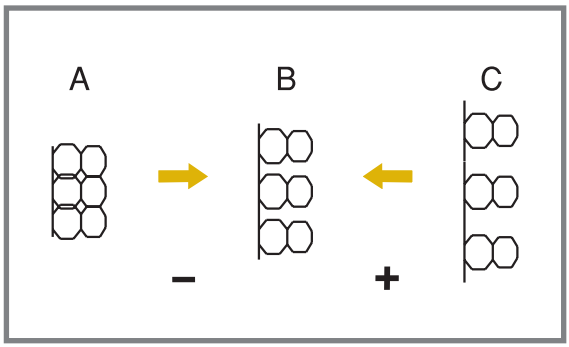


Adjusting distorted stretch stitch patterns

A. When Patterns are too compressed, correct by turning the dial in the direction of "–".

B. Correct setting.

C. When Patterns are too drawn out, correct by turning the dial in the direction of "+".

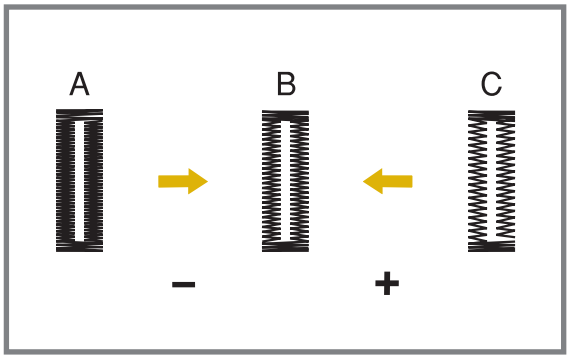


Adjusting distorted letters or numbers

A. When the letters or numbers are overlap, turn the dial to "–".

B. Correct setting.

C. When the patterns are too drawn out, correct by turning the dial to "+".



Adjusting the stitch density for buttonhole

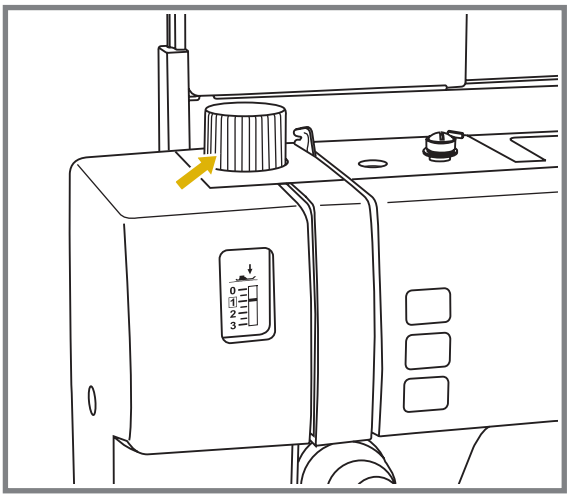
A. Buttonhole is too dense, correct by turning the dial to "–".

B. Correct setting.

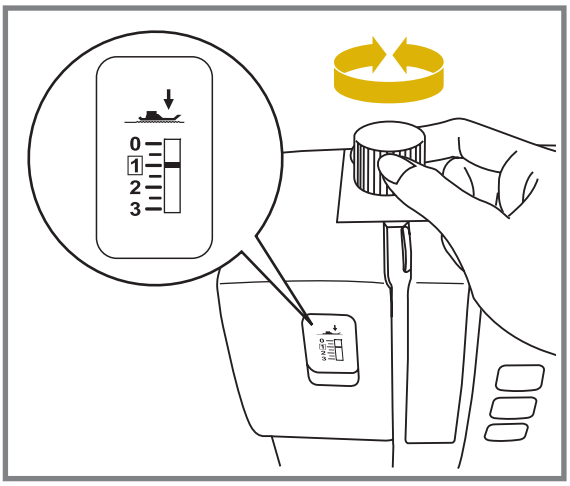
C. Buttonhole is less dense, correct by turning the dial to "+".

☞ ***Note:*** *Always test sew the pattern on a piece of fabric that is the same as the fabric used for your project.*

PRESSER FOOT PRESSURE ADJUSTMENT



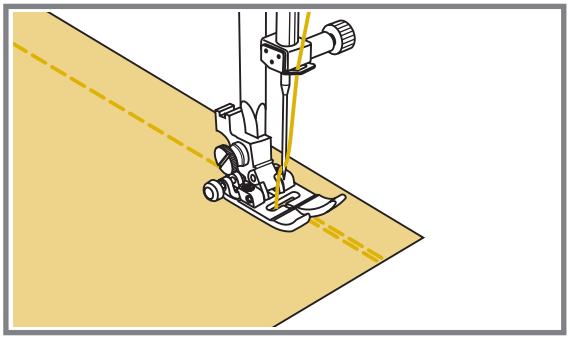
The presser foot pressure dial is on the top of the face plate.



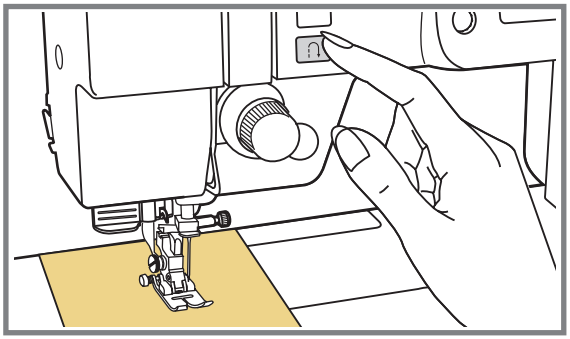
The presser foot pressure of the machine has been preset and usually requires no particular readjustment.

The foot pressure dial should be set near "1" for regular sewing. Adjust the pressure between "0" and "2" for heavyweight or thicker fabrics. Set the pressure between "1" and "2" for lightweight or fine fabrics and applique stitching.

Reverse



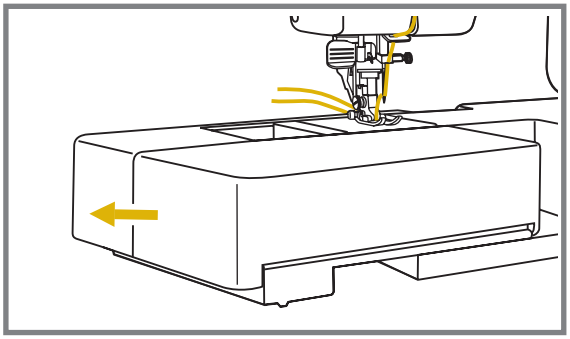
Reverse stitching is used to secure the threads at the beginning and at the end of a seam.



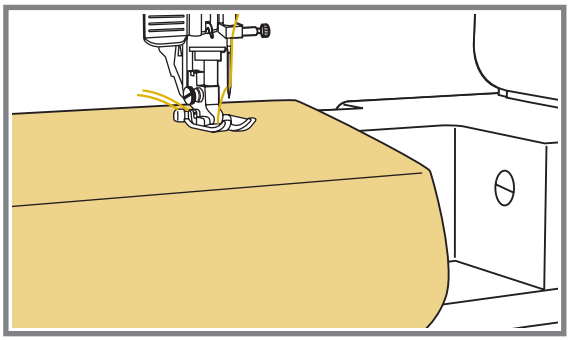
Press the reverse button and sew 4-5 stitches.

The machine will sew forward when the button is released.

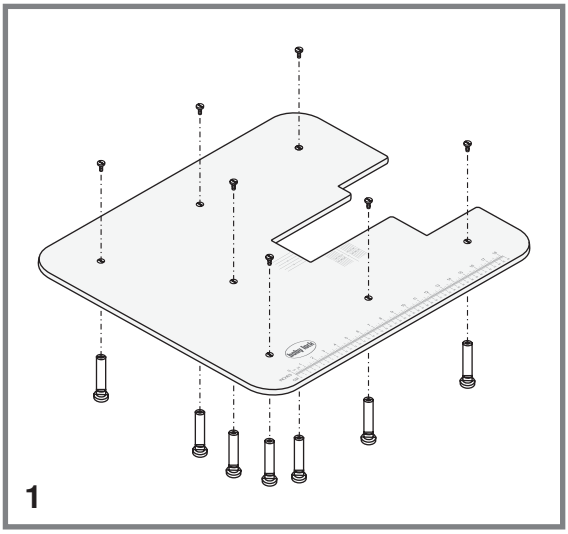
Free arm sewing



Free-arm sewing is convenient for sewing tubular areas such as pant hems and cuffs.

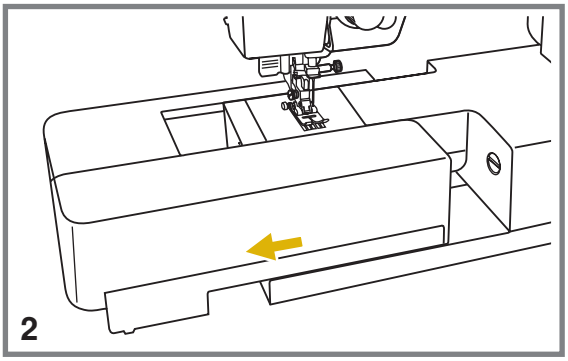


Installing the extension table

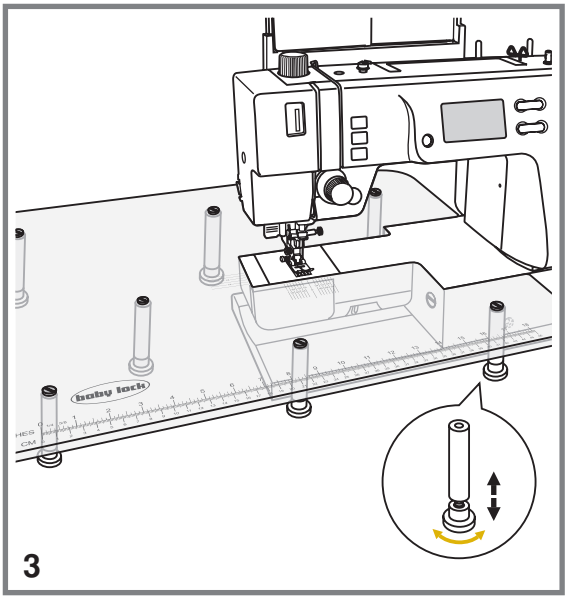


1. Take out the extension table and seven extension table feet from the packaging.
   Remove the screws from each of the feet with the large slotted screwdriver.

   Place one of the feet under one of the holes in the extension table and tighten the top screw with the large slotted screwdriver.
   Repeat for the remaining feet.



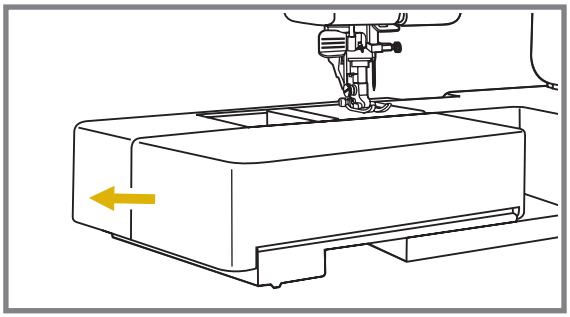
2. Pull the sewing table and accessory box off by sliding it to the left.



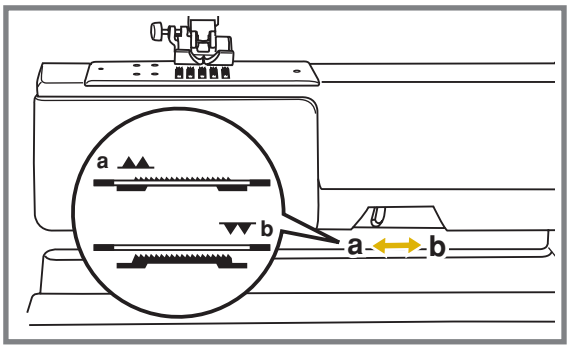
3. Keeping the extension table level, slide it up against the sewing machine.
   To adjust the height of the extension table, turn the rubber knobs under each of the feet to the proper height.

⚠ ***Attention:*** *Do not move the sewing machine while the extension table is attached, otherwise damage and/or injury may occur.*

To raise or drop the feed dogs



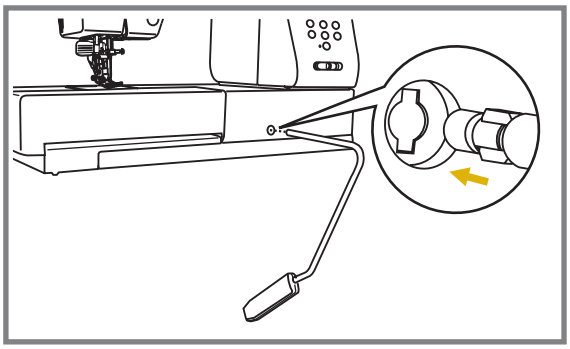
With the sewing table off the machine, the feed dog adjustment lever is located at the base of the free-arm in the front of the machine.



Sliding the lever to the " ▼▼ " (b) will lower the feed dog, for example during button sewing. If you wish to continue sewing normally, slide the lever to the " ▲▲ " (a) in order to raise the feed dogs.

Note: *Turn the handwheel one complete cycle to return the feed dog to the raised position.*

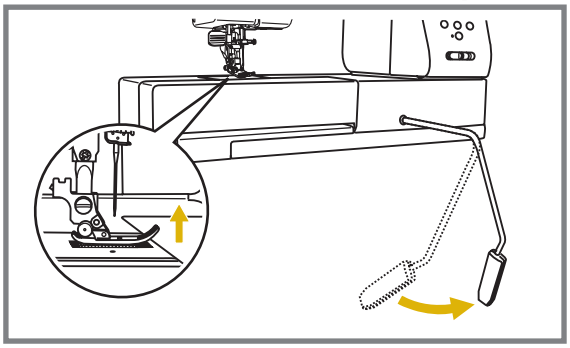
Attaching the knee lifter



The knee lifter is extremely helpful when sewing applique, patchwork and quilting since it allows you to handle the fabric while your knee controls the presser foot.

Match the ribs on the knee lifter with the notches in the knee lifter socket and insert the knee lifter.

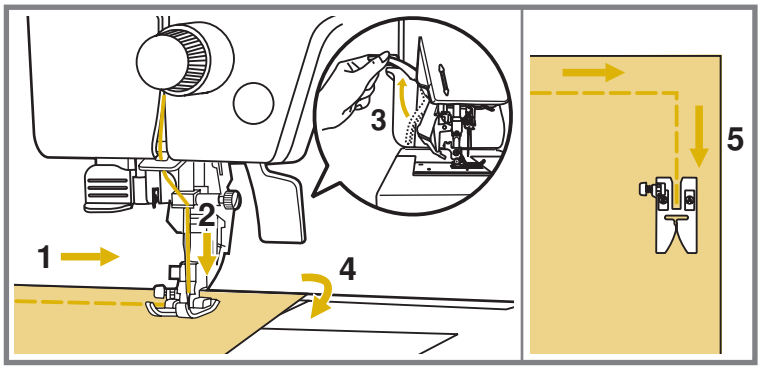
Knee lifter to raise / lower presser foot



Move the knee lifter to the right to raise the presser foot. Release the knee lifter to lower the presser foot.

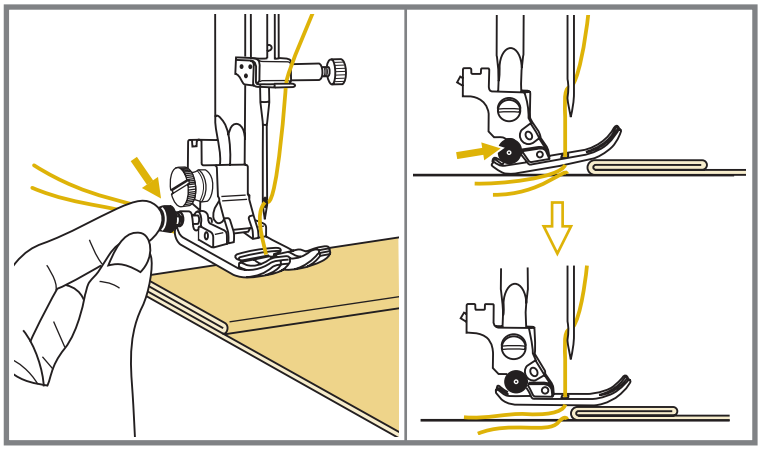
Attention: *Do not touch the knee lifter while sewing, otherwise the fabric will not be fed correctly.*

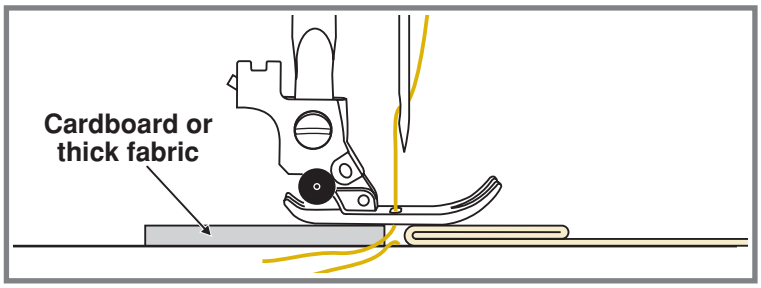
Sewing corners

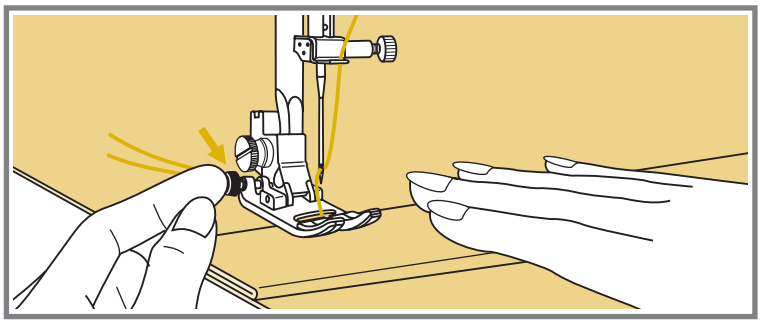


1. Stop the sewing machine when you reach a corner.
2. Lower the needle into the fabric manually or by pressing the needle up/down button till needle is in down position.
3. Raise the presser foot.
4. Use the needle as a pivot and turn the fabric.
5. Lower the presser foot and resume sewing.

Sewing on heavy fabric







The black button on the left side of the presser foot will lock the presser foot in a horizontal position if you push it in before lowering the presser foot.

This ensures even feeding at the beginning of a seam and helps when sewing multiple layers of fabric such as sewing over seams when hemming jeans.

When you reach the point of an increased thickness, lower the needle and raise the presser foot. Press the toe of the presser foot and push in the black button, then lower the foot and continue sewing.

The black button releases automatically after sewing few stitches.

You also can place another piece of fabric with the same thickness at the back of the seam.

Or support the presser foot while feeding by hand and sewing toward the folded side.

SELECTING STITCHES

Using the selection buttons

Ten of the most frequently used utility stitches can quickly be selected with the selection buttons. Select the desired stitch from those shown on the stitch pattern plate.

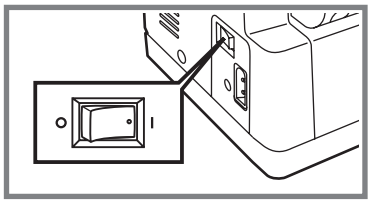
When the sewing machine is turned on, the straight stitch (center needle position) is automatically selected.

1. Determine the stitch that you wish to use.
   * Refer to Pattern Chart on page 37.

2. Determine which presser foot should be used with the selected stitch.
   The presser feet can be stored inside the accessory compartment.
   * For details on the stitches that can be sewn with a twin needle, refer to "Stitch Reference Chart" beginning on page 93.

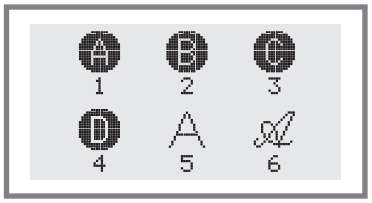
3. Attach the correct presser foot for the selected stitch.
   * For details, refer to "Changing the Presser Foot" on page 32.

4. Turn on the sewing machine.



   * The straight stitch (center needle position) is shown selected within the LCD.

5. Press the " (FUNC) " button and the pattern group screen will automatically appear on the LCD screen.

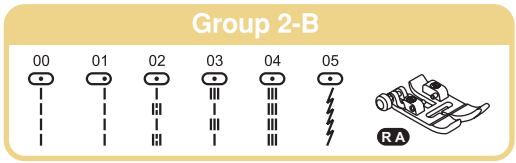


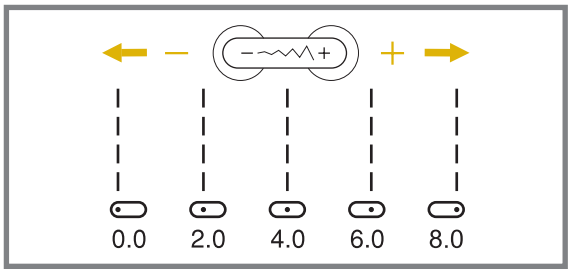
6. Press the numbered button corresponding to the desired group of stitches that you wish to use. (e.g. press 2 for group "B")

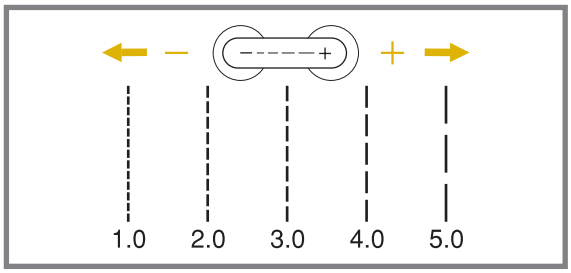
7. Press the 2 digit pattern number from the selected group on the stitch pattern plate.

Note: *When a stitch is selected, the icon for the presser foot that should be used appears in the screen. Check that the correct presser foot is attached before starting to sew. If the wrong presser foot is installed, turn off the sewing machine, attach the correct presser foot, and then select the desired stitch again.*

Straight stitches and needle position







Changing the needle position

This setting can be applied only to patterns 1-4 from Group 1-A, Group 2-B Patterns 00-05, 27-29, Group 3-C Patterns 00-02, 04, 18 and Group 4-D Pattern 50.

The pre-set position is "4.0", center position. When you press the "–" stitch width adjustment button, the needle position will move to the left. When you press the "+" stitch width adjustment button, the needle position will move to the right.

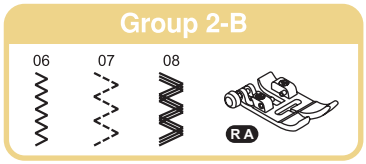
The LCD screen width illustration indicates the position of needle and number for easy reference.

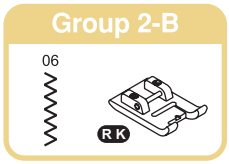
Changing the stitch length

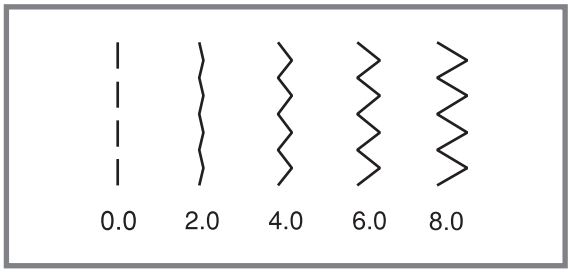
To shorten the stitch length, press the "–" stitch length adjustment button. For a longer stitch length, press the "+" stitch length adjustment button.

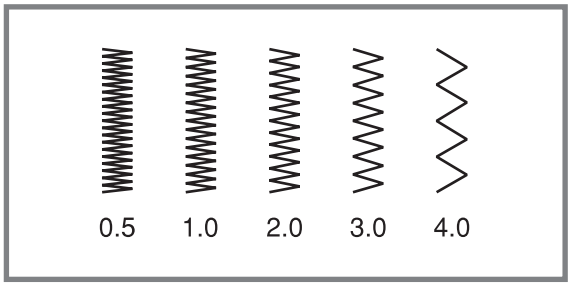
Generally speaking, the thicker the fabric, thread and needle, the longer the stitch should be.

Zigzag stitches









Adjusting the stitch width

The maximum zigzag stitch width for zigzag stitching is "8.0"; however, the width can be reduced on any patterns. The width increases as you press the "+" stitch width adjustment button from "0.0-8.0".

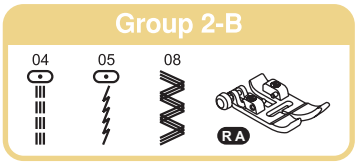
Note: *Some stitches have a limited stitch width range.*

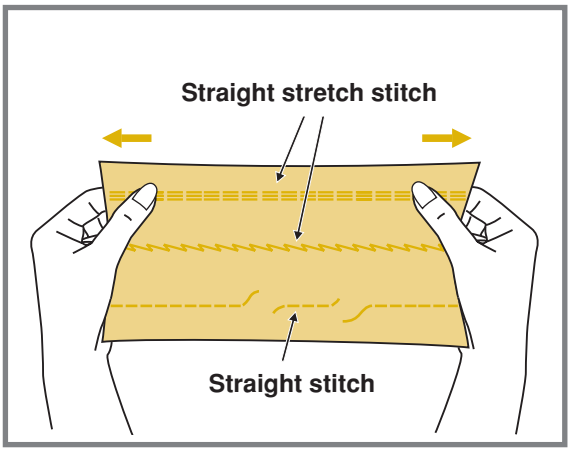
Adjusting the stitch length

The density of zigzag stitches increase as the setting of stitch length approaches "0.0". Neat zigzag stitches are usually achieved at "1.0-2.5".

Zigzag stitches with a short length (approximately 0.4) are referred to as a satin stitch. The cutout on the underside of the RK satin stitch foot is designed to accommodate dense stitch formation.

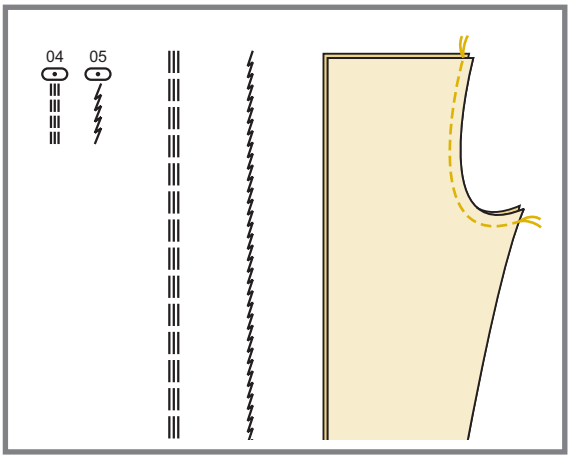
Stretch stitch



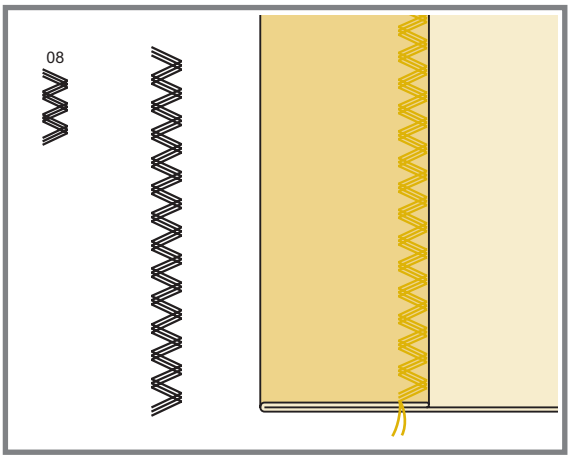


Stretch stitches assure you of a stitch that is strong and flexible and will give with the fabric without breaking. The flexibility of the straight stretch stitch makes it ideal for seaming heavy, knit or easy to ravel fabrics.

These stitches can also be used as a bold, decorative top stitch.



Straight stretch stitch is used to add triple reinforcement to stretch and hardwearing seams. Use it to sew stress areas such as the crotch seams in pants or the sleeve underarm area.

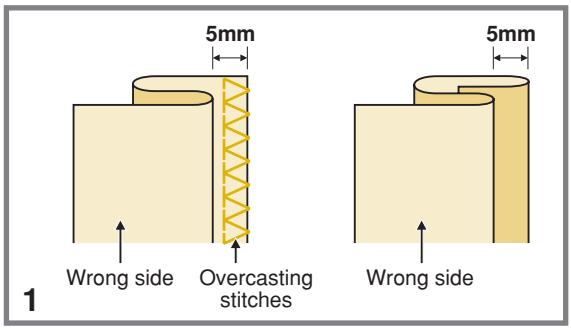


Triple zigzag stretch stitch is suitable for medium to heavyweight stretch fabrics in any area you would normally use a zigzag stitch or decorative rickrack trim.

Note: *Reinforce points that will be subject to strain such as inseams and attaching sleeves.*

BLIND HEM/ LINGERIE STITCH

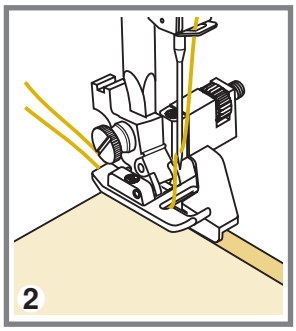
Group 2-B	Recommended		Group 2-B	Recommended	
16 20 RM	2.5~6.0	1.0~5.0	19 RM	3.5~6.0	1.0~3.0

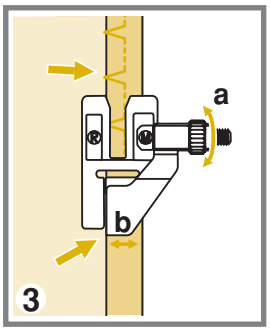


16: *Blind hem/ lingerie for firm fabrics*
19: *Blind hem for stretch fabrics*
20: *Blind hem for stretch fabrics*

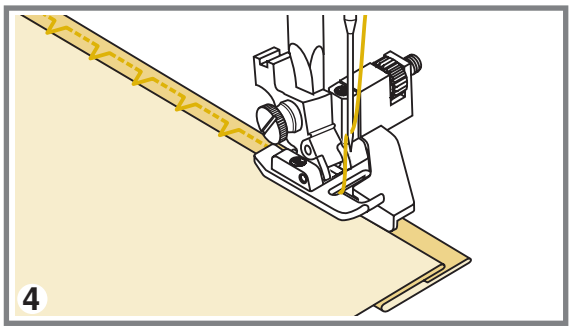
Note: *It takes practice to sew blind hems. Always make a sewing test first.*

1. Fold the fabric as illustrated with the wrong side facing up.

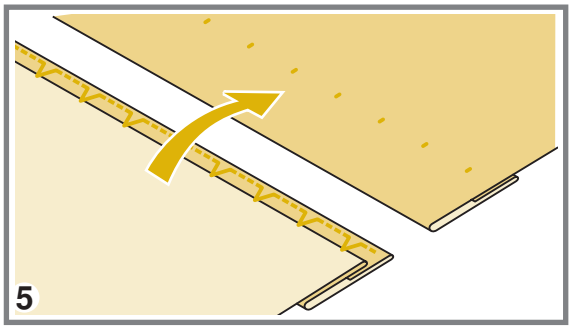




2. Attach the blind hem foot.
   Place the fabric under the foot.
   Turn the handwheel towards you by hand until the needle swings fully to the left. It should just pierce the fold of the fabric. If it does not, adjust the stitch width or guide on the presser foot accordingly.
3. Adjust the guide (b) by turning the knob (a) so that the guide just rests against the folded edge of the fabric and the needle just barely catches the fold as you sew.



4. Sew slowly, guiding the fabric carefully along the edge of the guide.



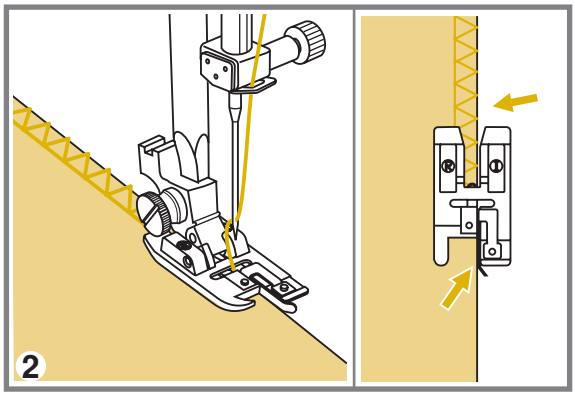
5. Turn the fabric over.

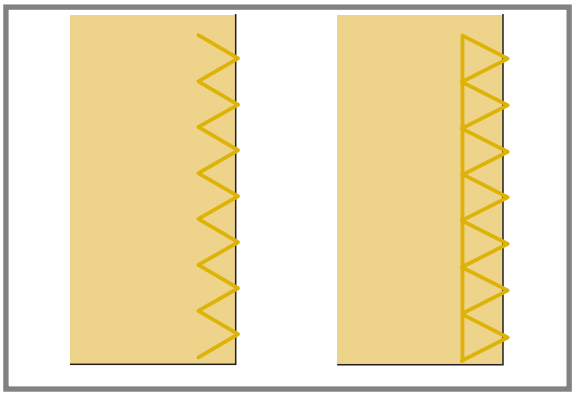
Note: *If the stitches are too visible on the right side of the fabric, decrease the width of the stitch or move the guide to the right.*
If the stitches are not catching the fold of the fabric, increase the width or move the guide to the left.

OVERCASTING STITCHES

Using the overcasting foot

Group 2-B	Recommended	
06 09		
1 RI	5.0~7.0	2.0~3.0



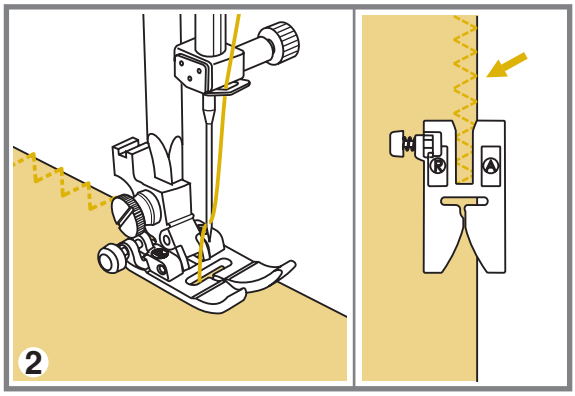


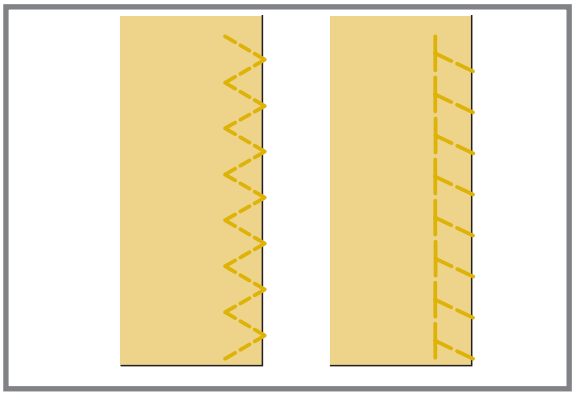
1. Change the presser foot to the overcasting foot.
2. Sew the fabric with the fabric edge against the guide of the overcasting foot.

⚠ ***Attention:*** *The overcasting foot should be used to sew with group 2-B patterns 06 and 09 only and do not set the stitch width narrower than "5.0". It is possible that the needle could hit the presser foot and break when sewing other patterns and width.*

Using the all purpose foot

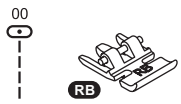
Group 2-B	Recommended	
07 11		
1 RA	2.5~4.5	2.0~3.0





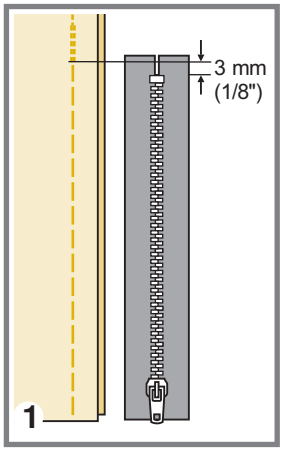
1. Change the presser foot to the all purpose foot.
2. Sew the overcasting along the edge of the fabric so that the needle drops over the edge of the fabric on the right side.

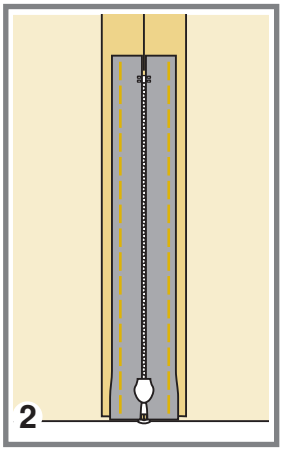
ZIPPER INSERTION

Group 2-B	Recommended	
	4.0	1.5~3.0

Attention: *Zipper foot should be used for sewing with the centered needle position straight stitch only. It is possible that the needle could hit the presser foot and break when sewing other patterns.*

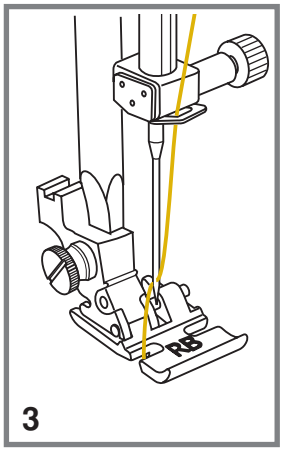
Inserting a centered zipper

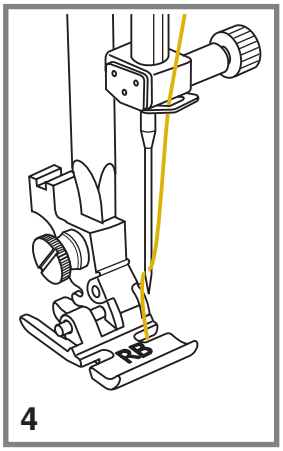




1. Baste the zipper opening on the garment.

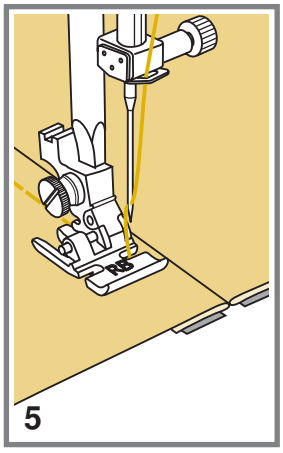
2. Press open the seam allowance. Place the zipper face down on the seam allowance with the teeth against the seam line. Baste the zipper tape.

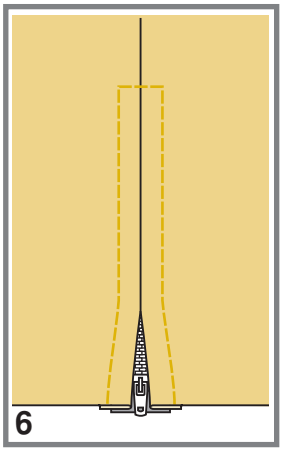




3. Attach the zipper foot. Attach the left side of the presser foot pin to the presser foot holder when sewing the right side of the zipper.

4. Attach the right side of the presser foot pin to the presser foot holder when sewing the left side of the zipper.



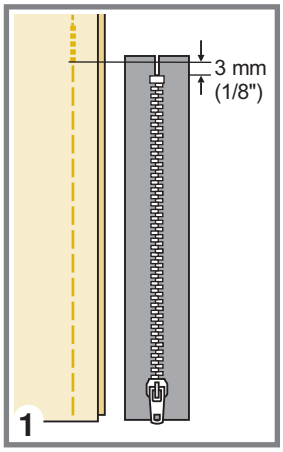


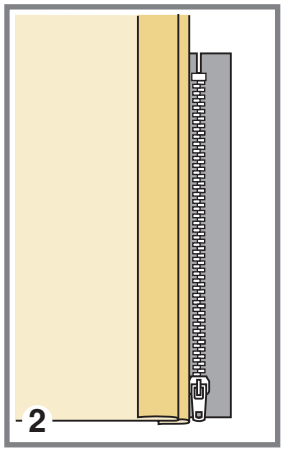
5. Stitch left side of the zipper from bottom to top.

6. Stitch across the lower end and right side of zipper. Remove the basting stitches and press.

ZIPPER INSERTION

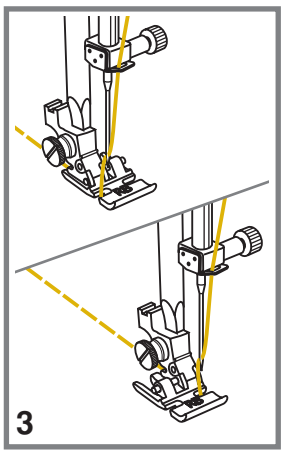
Inserting a side zipper

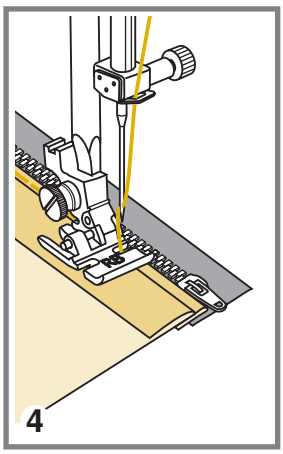




1. Baste the zipper opening on the garment.

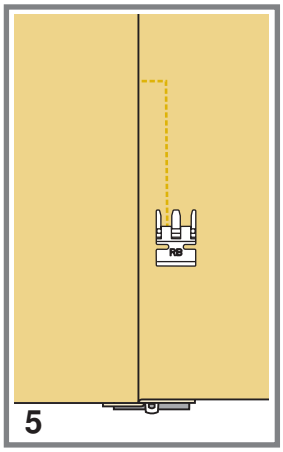
2. Fold the garment back to the left seam allowance. Turn under the right seam allowance to form a 3mm (1/8 inch) fold.

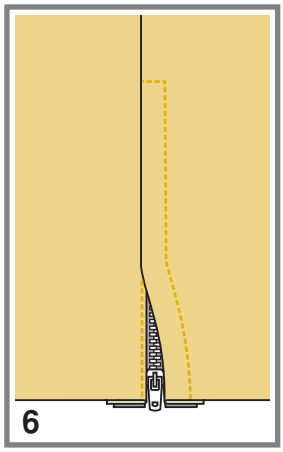




3. Attach the zipper foot. Attach the left side of the presser foot pin to the presser foot holder when sewing the right side of the zipper. Attach the right side of the presser foot pin to the presser foot holder when sewing the left side of the zipper.

4. Stitch the left side of the zipper from bottom to top.

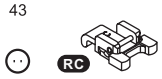


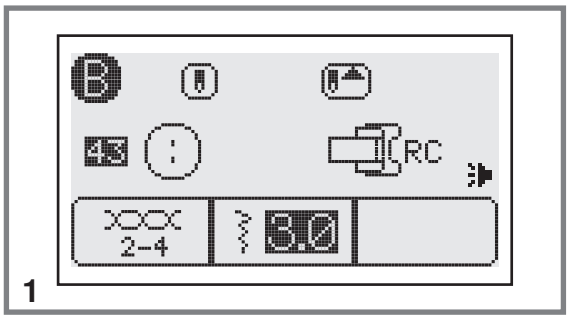


5. Turn the fabric right side out, stitch across the lower end and right side of zipper.

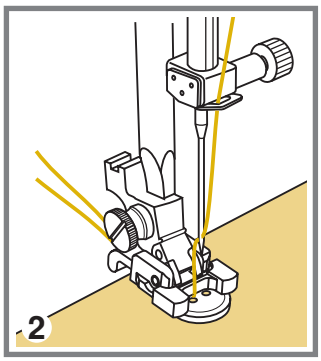
6. Stop about 5cm (2 inches) from the top of zipper. Remove the basting and open the zipper. Stitch the remainder of the seam.

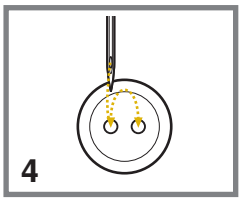
BUTTON SEWING

Group 2-B	Recommended
43 	2.5~4.5



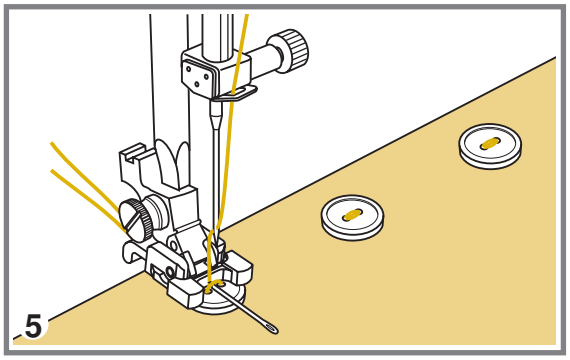
1. Select the pattern 43 from the Group 2-B Patterns to get the button sewing stitch.
   Change the presser foot to the button sewing foot "RC" and lower feed dogs.





2. Position the fabric under the foot. Place the button in the desired position, lower the presser foot lever.
3. Adjust the stitch width to "2.5-4.5" according to the distance between the two holes of the button.
4. Turn the handwheel counterclockwise to check that the needle goes cleanly into the left and right holes of the button.

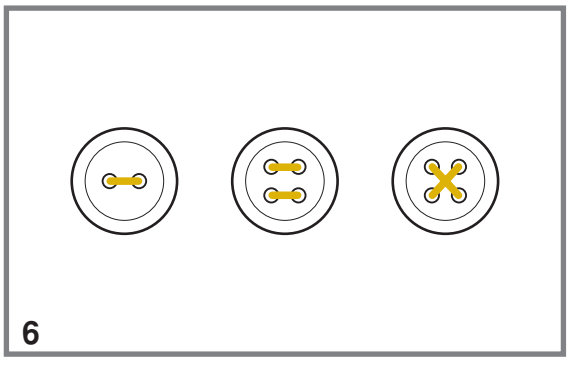
Note: *Sew at a slow speed to avoid hitting the button.*



5. Hold the end of the upper thread gently, and begin sewing. Once sewing is completed, the machine automatically sews reinforcement stitches, then stops.

Note: *Repeat this procedure to attach the button more securely.*

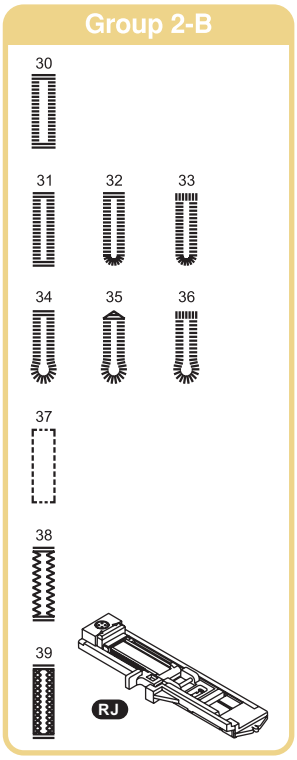
With scissors, cut the upper and bobbin threads at the beginning of the stitching, pull the upper thread at the end of the stitching to the wrong side of the fabric, and then tie it with the bobbin thread.



6. For 4-hole buttons, sew the two holes towards the front. Then, raise the presser foot, move the fabric so that the needle goes into the back two holes, and then sew them in the same way.

Note: *If a shank is required, place a needle or straight pin on top of the button and sew.*

Making a one-step buttonhole



Recommended	
3.0~7.0	0.3~1.0
2.5~7.0	0.3~1.0
5.5~7.0	0.3~1.0
2.5~7.0	0.3~3.0
2.5~7.0	1.0~3.0
3.5~7.0	2.0~3.0

30 : *For horizontal holes on blouses or shirts made from thin or medium fabric.*

31: *For thin or medium fabric.*

32 : *For thin or medium fabric.*

33 : *For horizontal buttonholes on thick fabrics.*

34: *For suits or overcoats.*

35: *For jeans or trousers.*

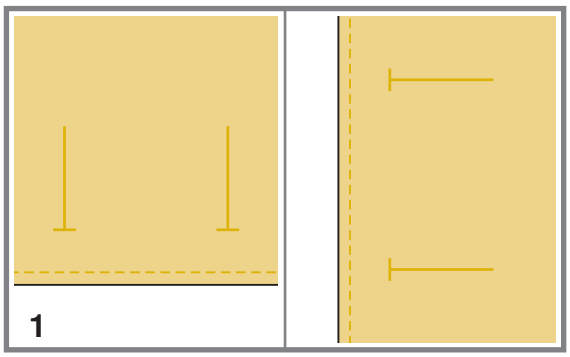
36: *For thick coats.*

37: *For bound button holes.*

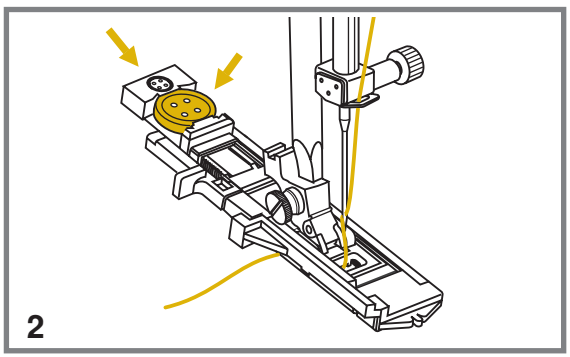
38: *For jeans or stretch fabric with a coarse weave.*

39: *For stretch fabric.*

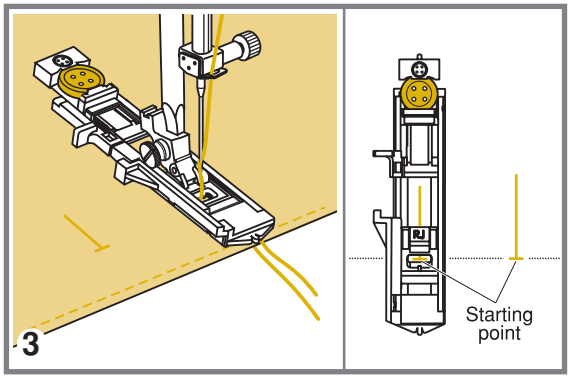
Note: *Before sewing a buttonhole on your project, practice on a scrap piece of the same type of fabric.*



1. Mark the position of the buttonholes on the fabric.
   The maximum buttonhole length is 3cm (1 3/16 inch). (Total of diameter + thickness of button.)



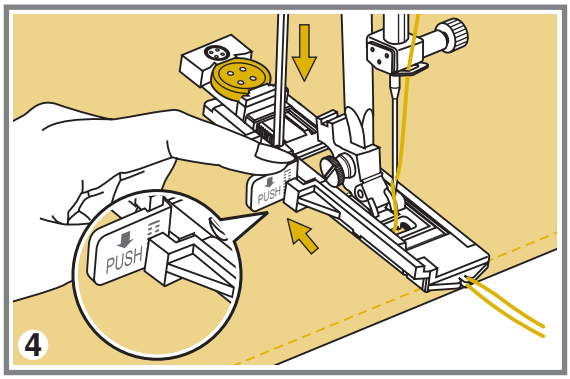
2. Attach the buttonhole foot, then extend the button guide plate and insert the button. The size of the buttonhole is determined by the button inserted in the button plate.
   The upper thread should be passed through the needle opening in the buttonhole foot, then the thread placed under the foot as illustrated.



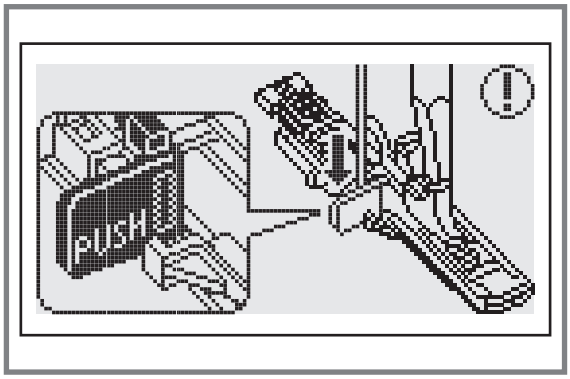
3. Select the buttonhole stitch.

   Adjust the stitch width and the stitch length to the desired width and density.

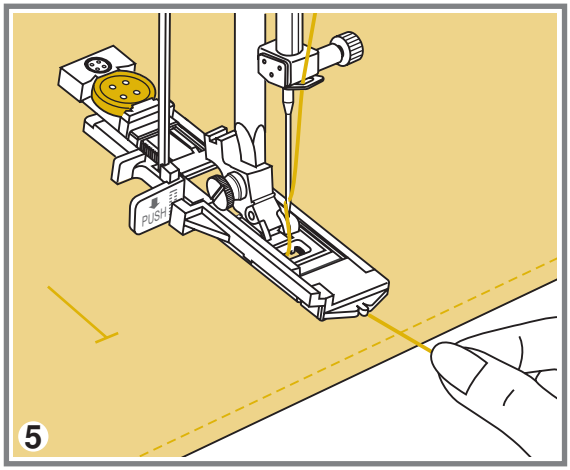
   Position the fabric under the presser foot with the front end of the buttonhole mark aligned with the center line on the buttonhole foot.



4. Pull the buttonhole lever all the way down and position it behind the bracket on the buttonhole foot.

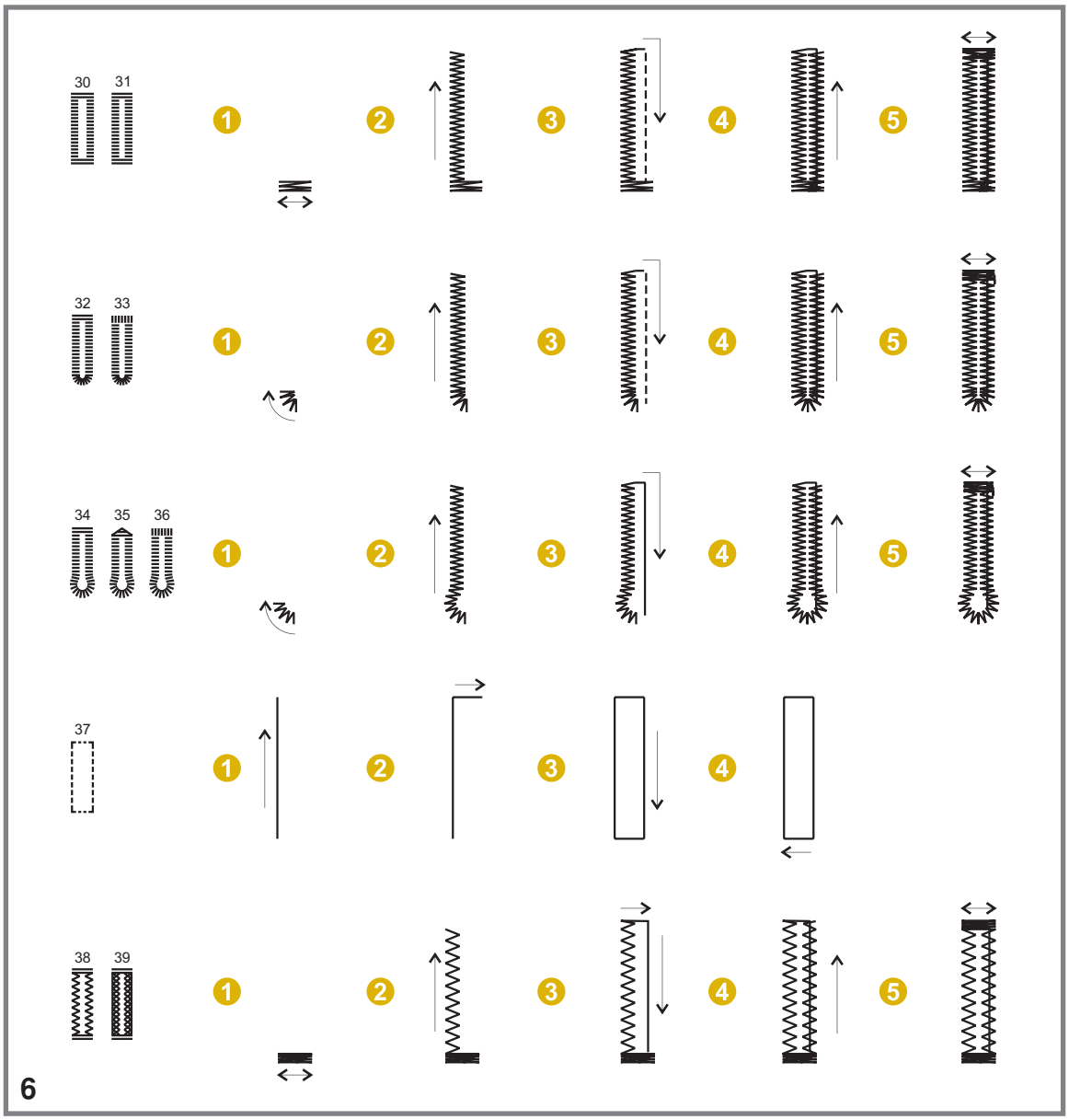


Note: *When you start to sew any buttonhole pattern before the buttonhole lever is lowered, the LCD screen will show the animated warning message to remind you to lower the buttonhole lever.*

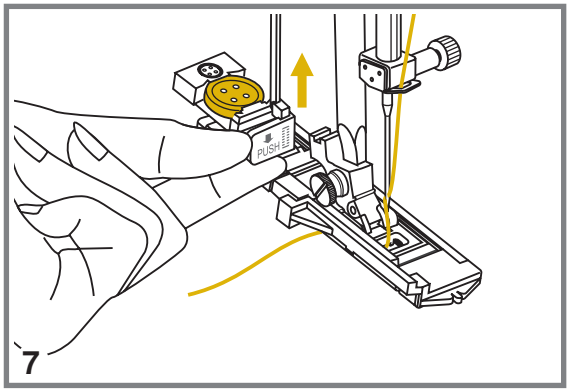


5. While lightly holding the end of the upper thread, start sewing.

Note: *Gently guide the fabric by hand. Before stopping, the machine will automatically sew a reinforcement stitch after the buttonhole is sewn.*



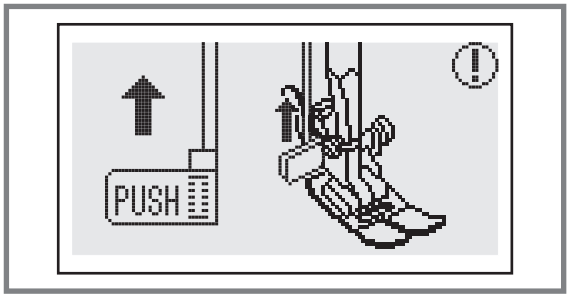
6



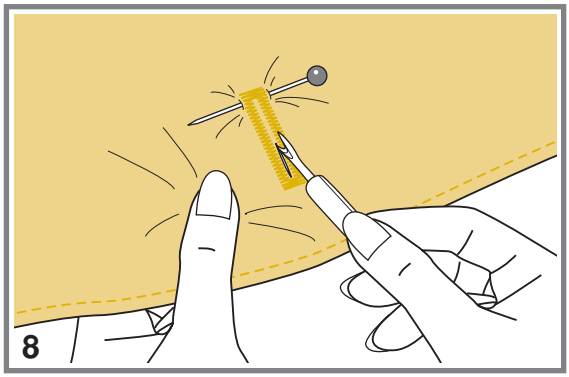
7

6. Buttonholes are sewn from the front of the presser foot to the back, as shown.

7. Raise the presser foot and cut thread. To restart the same buttonhole at the beginning, raise the presser foot to return to the starting position. After sewing the buttonholes, raise the buttonhole lever all the way up to its original position for other sewing.



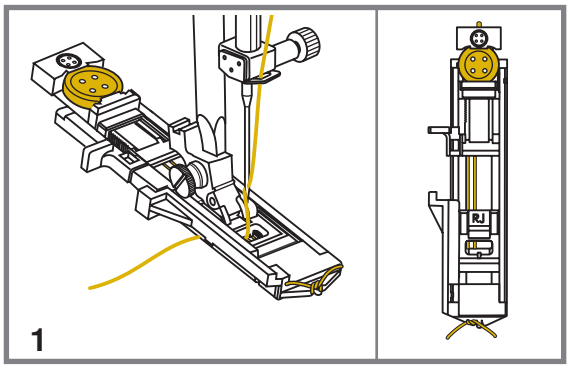
Note: *If the buttonhole lever is in the down position and a stitch other than a buttonhole is selected an animated warning message to raise the lever will appear on the LCD screen when the START/STOP button or foot control is pressed.*



8. Cut the center of the buttonhole being careful not to cut any buttonhole stitches on either side. Use a pin as a stopper at the bartack to prevent the stitching from being cut.

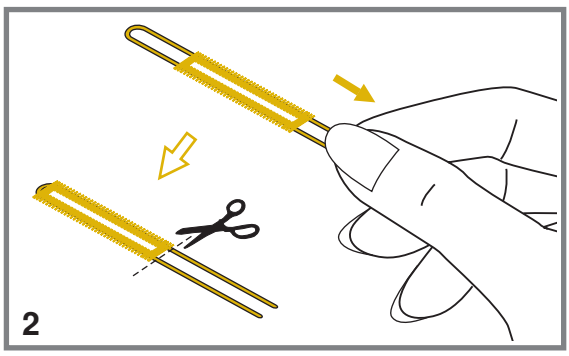
Making a buttonhole on stretch fabrics

When sewing buttonholes on stretch fabric, hook gimp thread under the buttonhole foot.



1. Attach the buttonhole foot and hook the gimp thread onto the back spur of the presser foot. Bring the two gimp thread ends parallel to the front of the foot and insert them into the grooves, then temporarily tie them there.

   Set the stitch width to match the diameter of the gimp thread. Stitches will sew over top of thread. Lower the presser foot and being sewing.



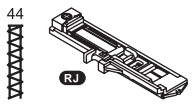
2. Once sewing is completed, carefully remove gimp thread from buttonhole foot.

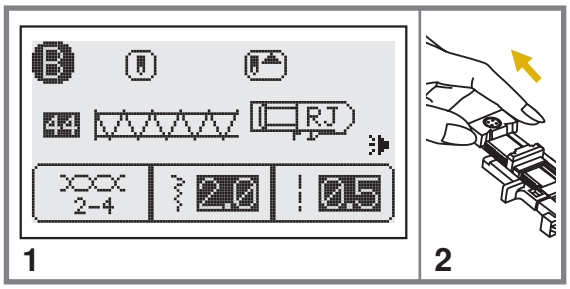
   Pull the gimp thread gently to remove any slack, then trim off any excess.

3. Pull the gimp thread to the wrong side of the fabric using a hand sewing needle and tie.
4. Using a seam ripper, cut the middle part of the gimp thread remaining at the top of the buttonhole. Then trim off any excess

Note: *It is suggested that you use interfacing on the backside of the fabric.*

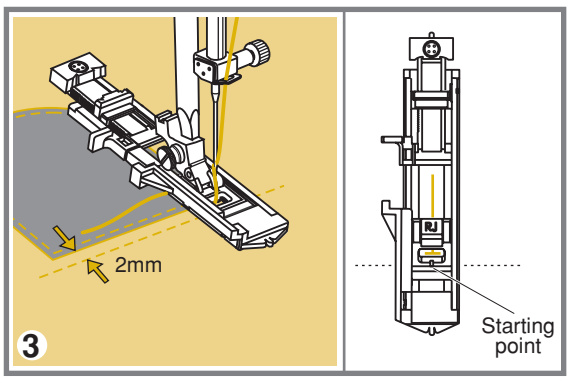
BAR TACK STITCH

Group 2-B	Recommended	
	1.0~3.0	0.4~1.0

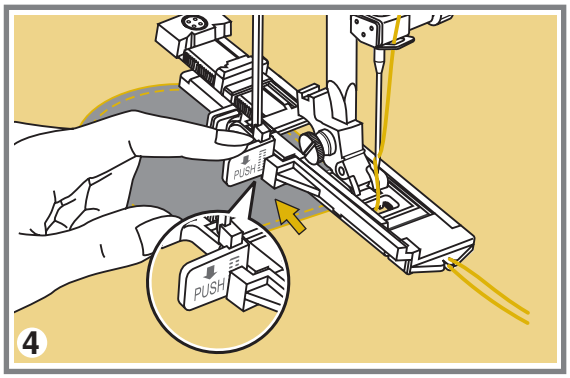


1. Select pattern 44 from the Group 2-B Patterns to get the bar tack stitch. Change the presser foot to the buttonhole foot.

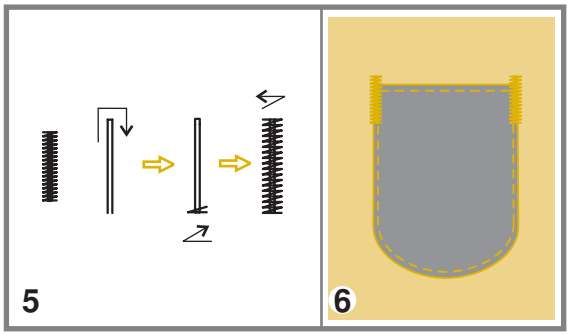
2. Extend the button guide plate and set to the desire bartack length. Adjust the stitch width and stitch length to personalize the stitches.



3. Position the fabric so that the needle is 2mm (1/16 inch) in front of the pocket opening, and then lower the presser foot lever.



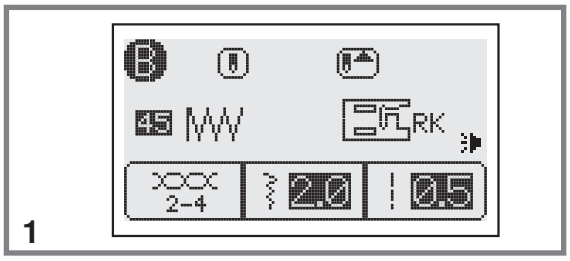
4. Pass the upper thread down through the hole in the presser foot. Pull down the buttonhole lever and position behind the bracket on the buttonhole foot. Gently hold the end of the upper thread in your left hand, and start sewing.



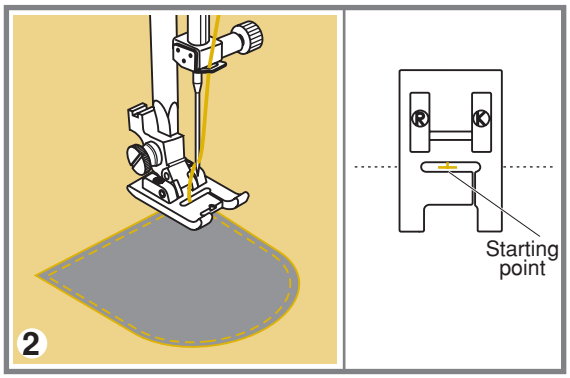
5. Sewing procedure for bar tack is illustrated.

6. This is an example of sewn bar tacks at pocket corners.

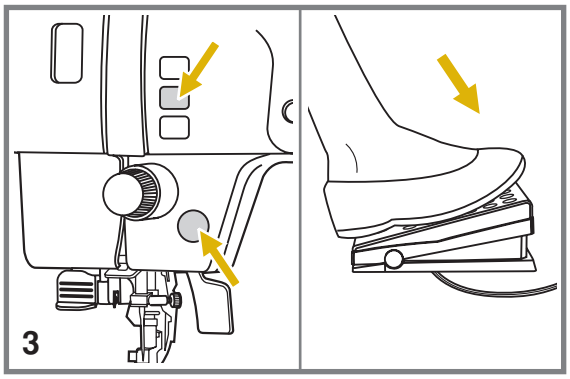
Group 2-B	Recommended	
45		
	1.0~3.0	0.4~1.0



1. Select pattern 45 from the Group 2-B Patterns to get the bar tack stitch. The stitch width and stitch length can be adjusted. Change to the satin stitch presser foot "RK".

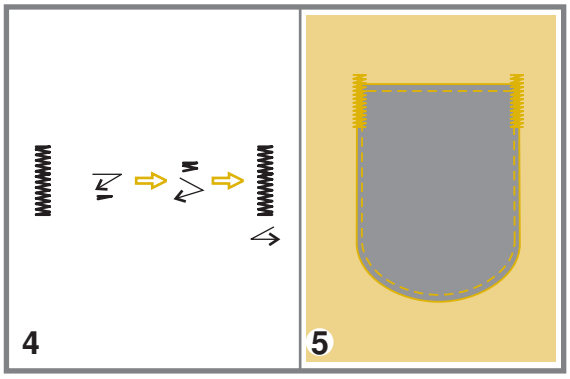


2. Position the needle at the top edge of the pocket opening.



3. Press the START/STOP button or push on the foot control to start sewing.

   When the bar tack has reached the desired length push the Auto-lock button. Machine will sew locking stitches and stop.



4. Illustration shows sewing procedure for bar tack.

5. Example of sewn bar tacks at pocket corners is shown.

Note: *Reinforce points that will be subject to strain such as pocket corners.*

EYELET STITCH

Group 2-B

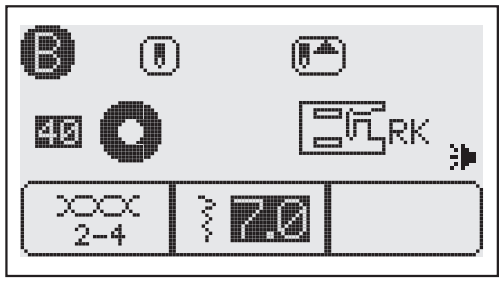
40 41

Recommended

5.0 ~8.0

40: Select for sewing eyelets on belts, etc.

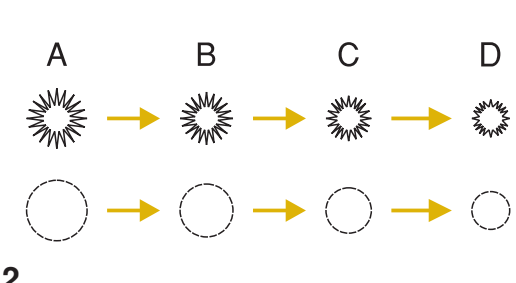
41: Select for sewing eyelets on belts, etc.



1

1. Select pattern 40 or 41 from Group 2-B Patterns to get the eyelet stitch.

   Attach the satin stitch presser foot "RK".



2

2. Press the "–" or "+" stitch width adjustment button to select the eyelet size.

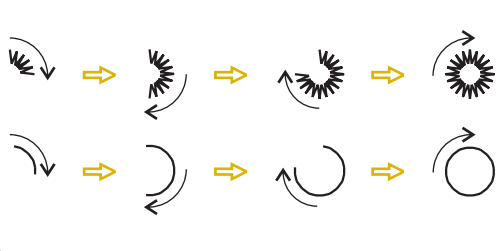
   Size of eyelet.

   A. 8.0mm (5/16 inch).

   B. 7.0mm (1/4 inch).

   C. 6.0mm (15/64 inch).

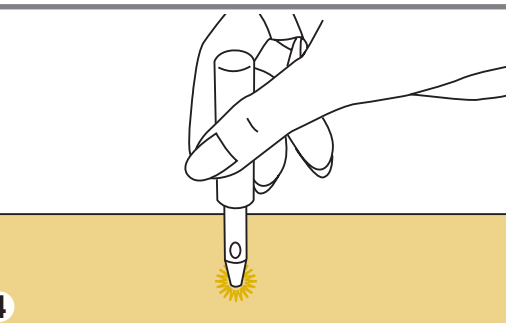
   D. 5.0mm (3/16 inch).



3

3. Lower the needle into the fabric at the beginning of the stitching, and then lower the presser foot lever.

   Once sewing is completed, the machine automatically sews reinforcement stitches, then stops.



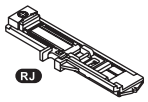
4

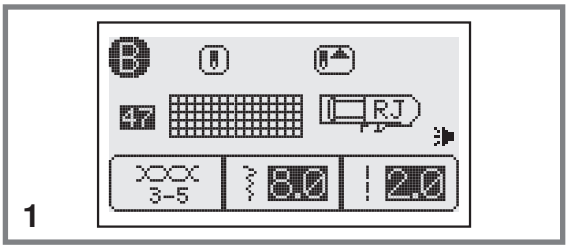
4. Make a hole in the center using an eyelet punch.

   * Eyelet punch is not included with the machine.

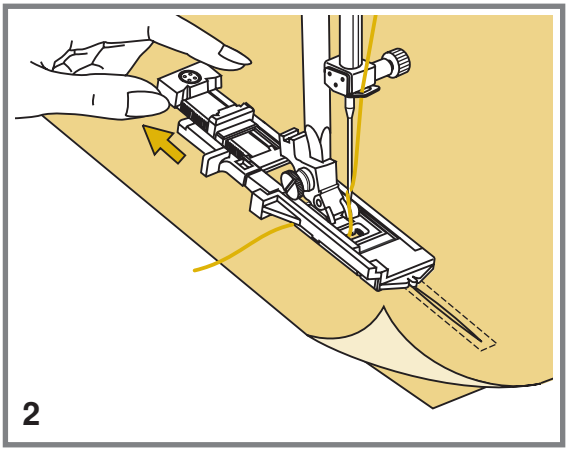
Note: *If fine thread is used, the stitching may be sparse. If this occurs, sew the eyelet twice; one on top of the other.*

DARNING STITCH

Group 2-B	Recommended	
46 47 48 		
	3.5~8.0	1.0~2.0

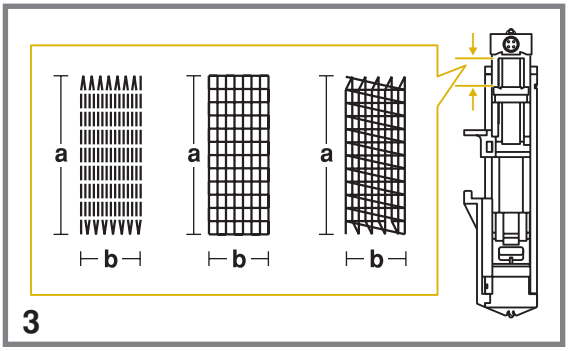


1. Select pattern 46, 47 or 48 from Group 2-B Patterns to get the darning stitch. Change the presser foot to the buttonhole foot "RJ".



2. Baste the upper fabric and the reinforcement fabric together. Select the width of the pattern by using the stitch width button. Lower the presser foot over the center of the tear.

   Determine the desired length of the darning then extend the button guide plate on the buttonhole foot "RJ" to the desired length.

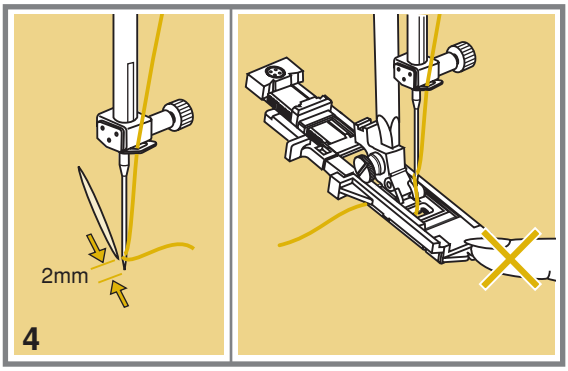


3. The size of one darning pattern cycle is variable.

   However, the maximum pattern length is 3.5cm (1-1/8 inch) and the maximum pattern width is 8mm (5/16 inch).

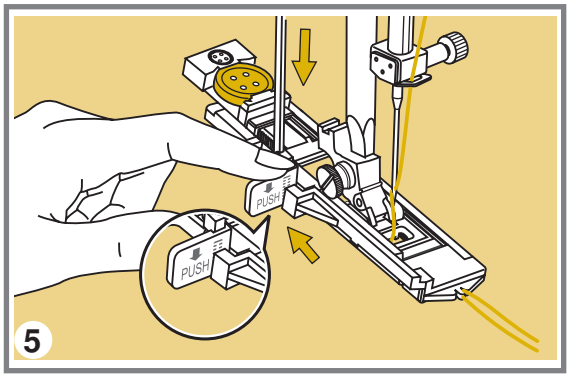
   a. The length of darning pattern.

   b. The width of darning pattern.



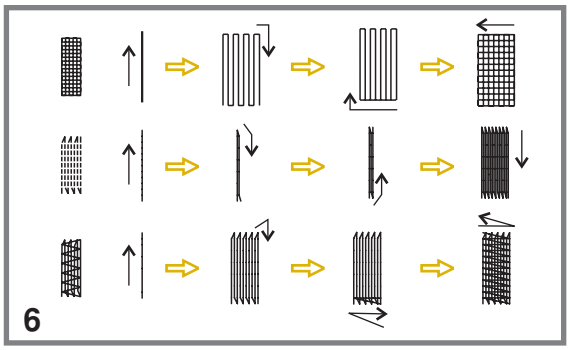
4. Position the fabric so that the needle is 2mm (1/16 inch) in front of the area to be darned, and then lower the presser foot lever.

Note: *When lowering the presser foot, do not push on the front of the presser foot, otherwise the darning pattern will not be sewn with the correct size.*

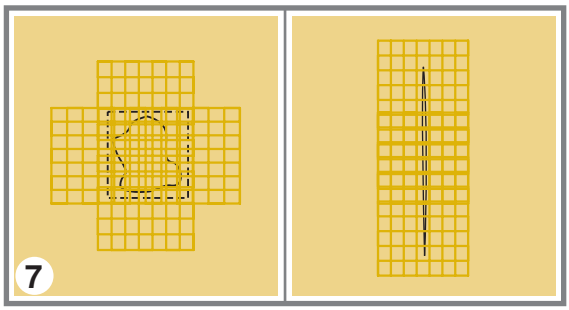


5. Pass the upper thread down through the hole in the presser foot. Pull down the buttonhole lever and position it behind the bracket on the buttonhole foot. Gently hold the end of the upper thread in your left hand, and then start sewing.

Note: *When you start to sew darning pattern before the buttonhole lever is lowered, LCD screen will show the animated warning message to remind you to lower the buttonhole lever.*

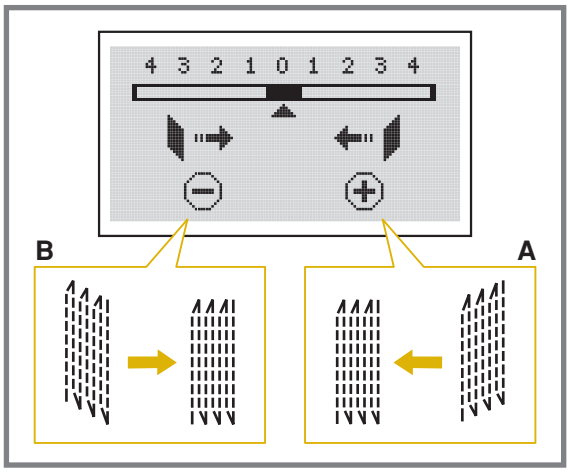


6. Darning stitches are sewn from the front of the presser foot to the back, as shown.



7. If the tear is too large to cover with one darning pattern, reposition the fabric and sew additional darning patterns for better coverage.

To adjust the evenness of darning stitch



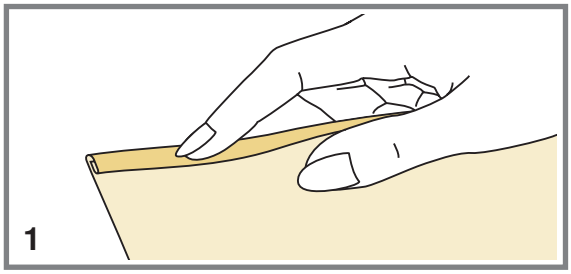
The evenness of darning stitch may vary depending on the sewing condition, i.e. type of fabrics. You can correct the unevenness of darning stitch.

- Press the " EDIT " button.
  - A. If the left corner is lower than the right side, press the stitch length adjusting button "+".
  - B. If the right corner is lower than the left side, press the stitch length adjusting button "–".
- Press the " EDIT " button again after adjusting to return to the normal LCD screen.

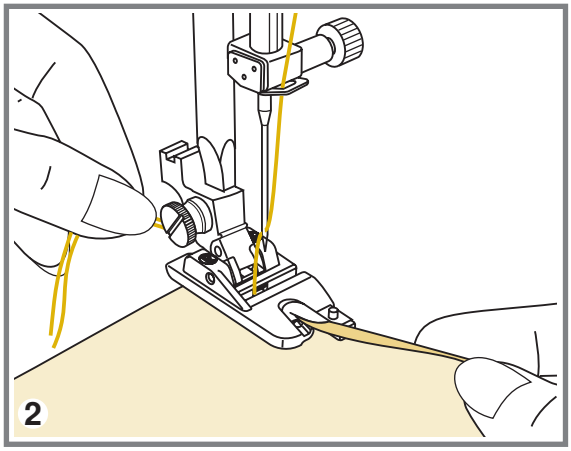
Note: *Only Group 2-B patterns 46-48 can be adjusted.*

NARROW HEMMING

Group 2-B	Recommended	
	4.0	1.5~3.0

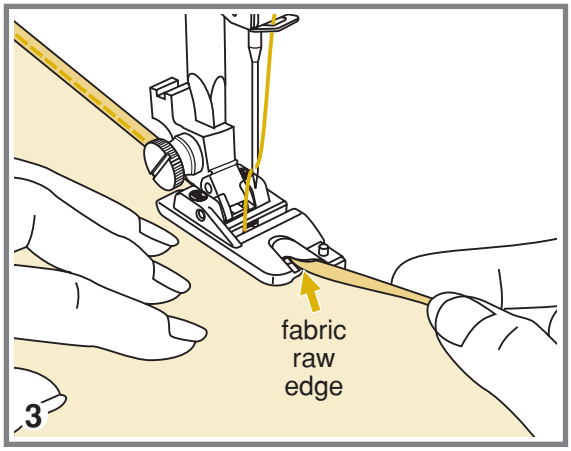


1. Fold the edge of the fabric over about 3mm (1/8 inch), then fold it over again 3mm (1/8 inch) for about 5cm (2 inches) along the edge of the fabric.



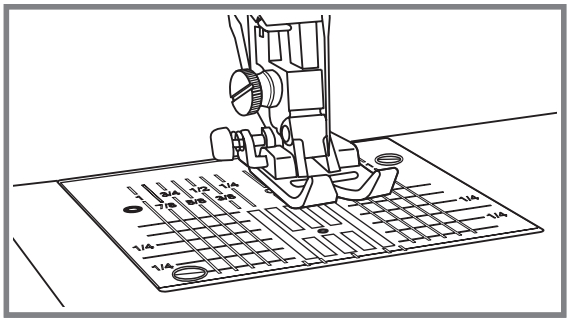
2. Insert the needle into the fold by rotating the handwheel toward you, and lower the presser foot. Sew several stitches and raise the presser foot.

   Insert the fabric fold into the spiral opening of hemmer foot. Adjust the fabric back until the fold forms a scroll shape.



3. Lower the presser foot and start sewing slowly guiding the fabric raw edge against the recess in front of the hemmer foot and the fabric into the scroll of the foot.

Using the straight stitch needle plate



The straight stitch needle plate and 1/4 inch quilting foot "RE" provide the best possible support and guiding of the fabric during stitch formation. (For example: when patchwoking)

When using the straight stitch needle plate, the needle must always be in center position. Group 1-A Pattern 1 is the only stitch pattern that can be used with the straight stitch needle plate.

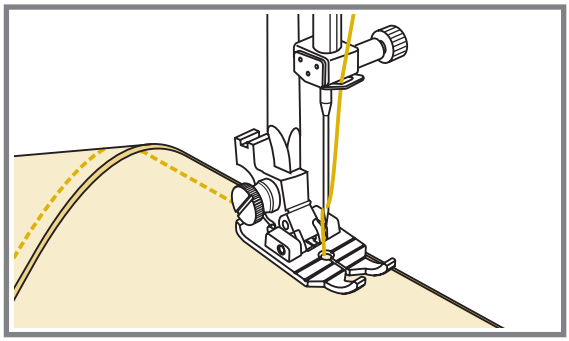
Only the stitch length adjustment button can be selected while using the straight stitch needle plate.

Note: *See maintenance section on page 89 for changing the needle plate.*

Patchwork stitching

Group 2-B

Recommended	
4.0	1.8~2.5



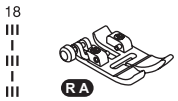
Sew a 1/4" seam allowance. Red lines mark 1/4" and 1/8" pivot points in front of and behind the needle.

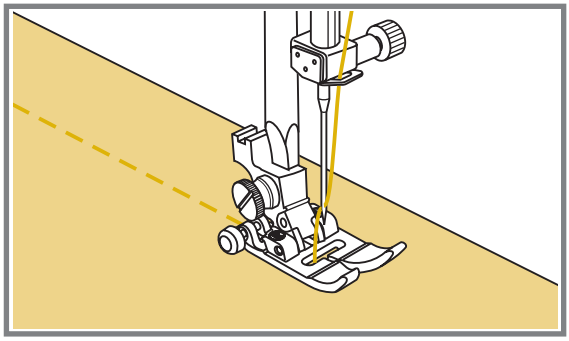
Sew with edge of fabric at the edge of the 1/4" quilting foot "RE". To pivot 1/4" from end of fabric; when fabric edge reaches the first red mark on foot stop sewing with needle in the down position.

Note: *Group 3-C pattern 02, is 1/4 inch from the right edge of "RA" foot and pattern 04, is 1/4 inch from the left edge of "RA" foot.*

Hand quilting stitch

Group 3-C

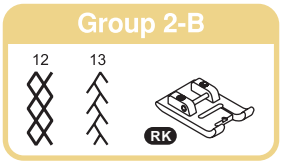


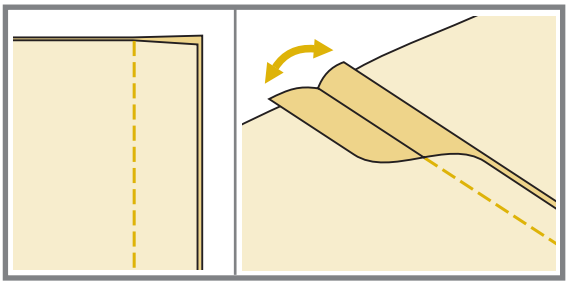


You can duplicate the look of a hand quilted stitch by using monofilament thread in the needle, 50 to 60 weight cotton thread in the bobbin, and increasing the needle tension.

The needle tension will need to be determined by the thickness of your batting.

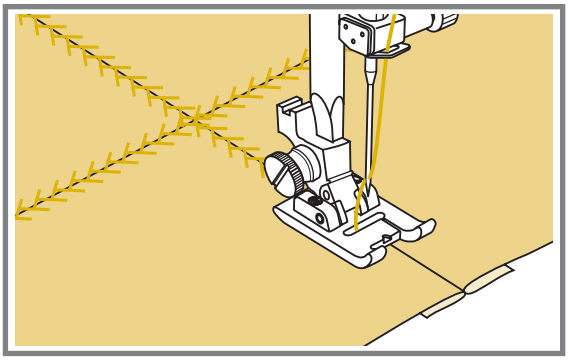
Decorative patchwork stitching





Place the two pieces of fabric with the right sides together and sew with the straight stitch.

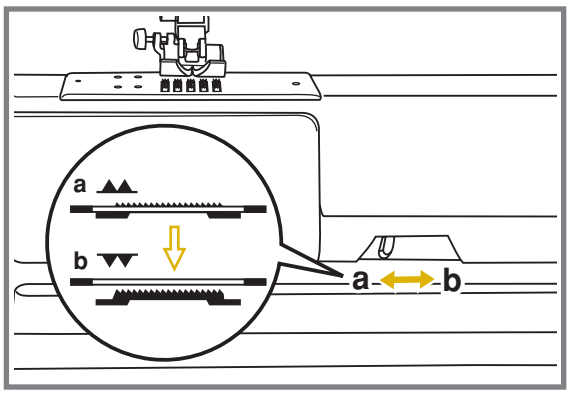
Open the seam allowances and press it flat.



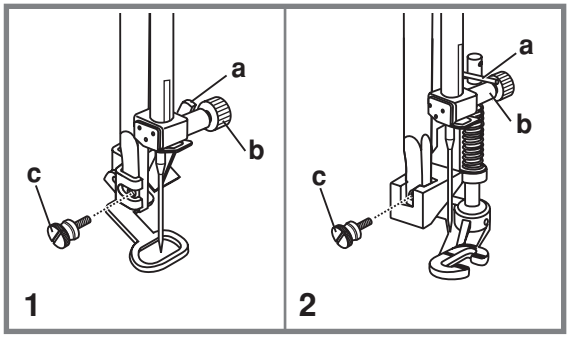
On the right side of the joined pieces of fabric place the center of the presser foot on the seam line and sew over the seam with decorative stitching.

Free motion darning, embroidery and monogramming

Group 2-B	Recommended
00 06 RL RX	3.5~5.0

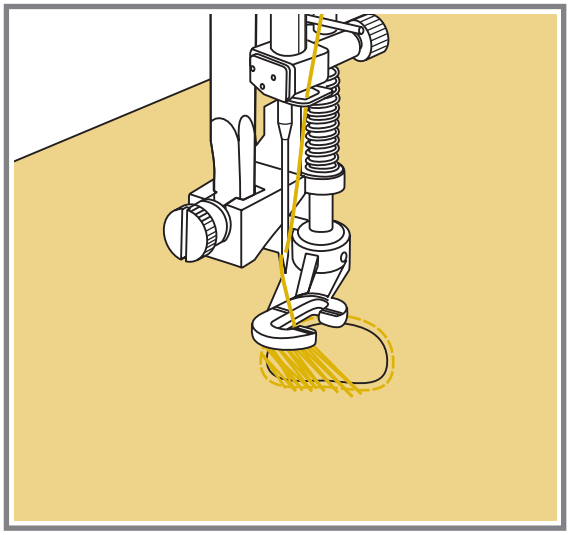


Move the drop feed lever to " ▼▼ " to lower the feed dogs.



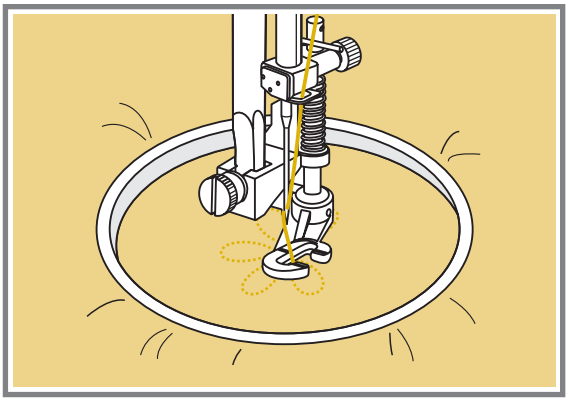
1. Remove the presser foot holder, and attach the free motion darning foot by positioning the lever (a) behind the needle clamp screw (b). Hold the free motion darning foot in place and tighten screw (c).

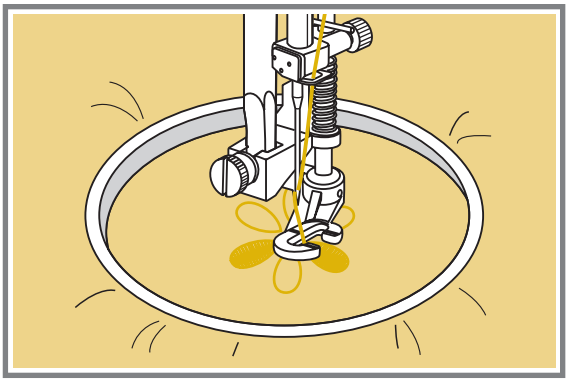
2. Remove the presser foot holder, and attach the free motion open toe darning foot by positioning the pin (a) above the needle clamp screw (b). Hold the free motion open toe darning foot in place and tighten screw (c).



Darning
Place a piece of stabilizer under the fabric to be mended.
First sew around the edges of the hole (to secure the threads). Working from front to back, sew over the hole in a constant and continuous movement. Turn the fabric 1/4 turn and sew over the first stitching moving the work slower over the hole to separate the threads and not form big gaps between the threads.

Note: *Free motion darning is accomplished with the feed dog in the lowered position. Movement of the fabric is controlled by the operator; therefore it is necessary to coordinate sewing speed and the movement of fabric.*





Free motion embroidery

Mark the design to be embroidered on the fabric with wash-out marker. Place fabric and stabilizer in an embroidery hoop. Raise the needle to its highest position and slide the hoop under the needle. Lower the presser foot lever.

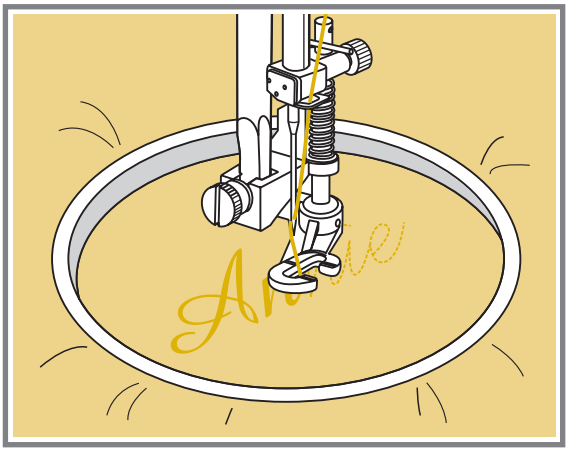
Hold the needle thread in the left hand; turn the handwheel toward you to bring the bobbin thread above the fabric surface. While holding both threads firmly, take three to five straight stitches in one spot.

Select zigzag stitch pattern and adjust the stitch width as desired. Stitch along the outline of the design by moving the embroidery hoop. Make sure to maintain a constant speed.

Fill in the design working from the outline toward the inside. Keep the stitches close together.

You will get longer stitches by moving the hoop faster and shorter stitches by moving the hoop more slowly.

Secure with reinforcement stitches at the end by pressing the auto-lock button.



Free motion monogramming

Mark the letter or letters to be monogrammed on the fabric with wash-out marker. Place fabric and stabilizer in an embroidery hoop. Raise the needle to its highest position and slide the hoop under the needle. Lower the presser foot lever.

Hold the needle thread in the left hand; turn the handwheel toward you to bring the bobbin thread above the fabric surface. While holding both threads firmly, take three to five straight stitches in one spot.

Select zigzag stitch pattern and adjust the stitch width as desired. Sew at a consistent speed along the lettering.

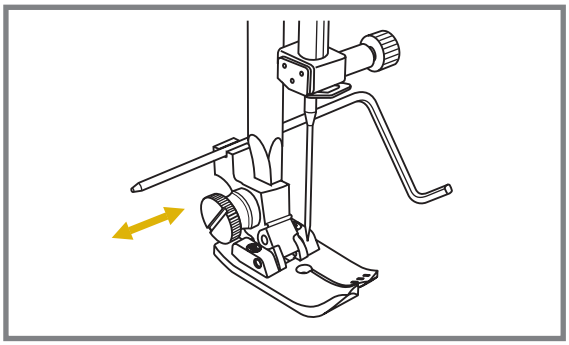
Moving the hoop faster will produce a looser stitched monogram; However moving the hoop slower will result in a denser looking monogram.

Secure with reinforcement stitches at the end by pressing the auto-lock button.

* Embroidery hoop is not included with the machine.

ATTACHING THE EDGE/ QUILTING GUIDE

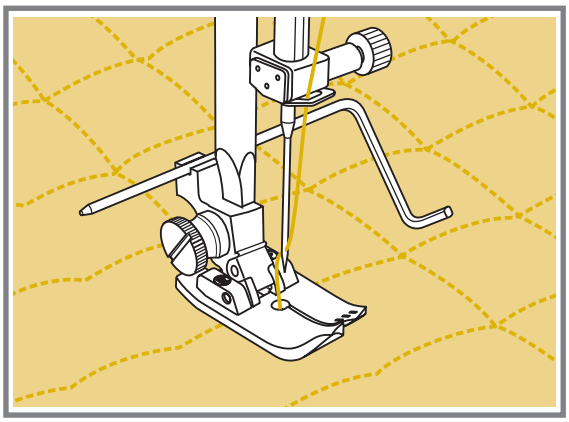
Group 2-B	Recommended	
00 04 RF	4.0	1.0~3.0



Use the edge/quilting guide to sew parallel stitches that are equally spaced.

Insert the bar of the edge/quilting guide into the slot at the rear of the presser foot holder as illustrated.

Adjust the bar of the edge/quilting guide to the width from the needle that you desire.



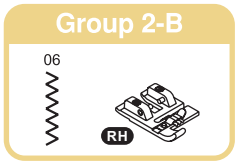
Sew the first row of stitching then move the fabric over placing the bar over the previous line of stitching.
Continue to sew each consecutive row in this manner for equal distance between rows.

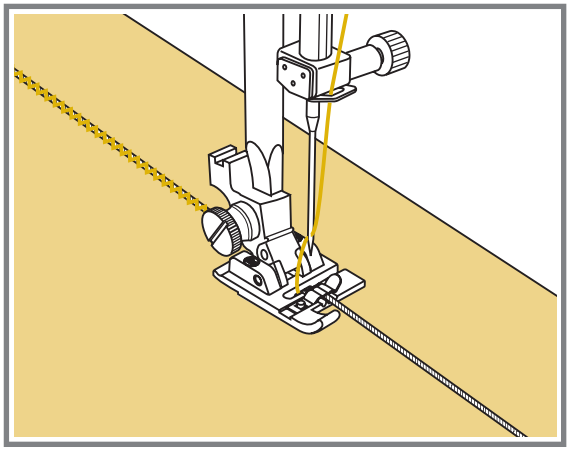
Note: *When using the straight stitch foot "RF", only use center needle position stitches (4.0 width setting) to prevent machine damage.*

CORDING

Sew over one strand of cording to create a pretty swirled design on a jacket or vest or sew over three strands of cording for border trims. Pearl cotton, knitting yarn, embroidery floss, lace thread, fine wool or lily yarn can be used for cording.

Single cording



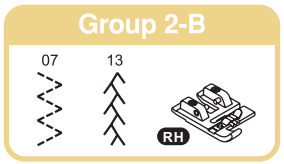


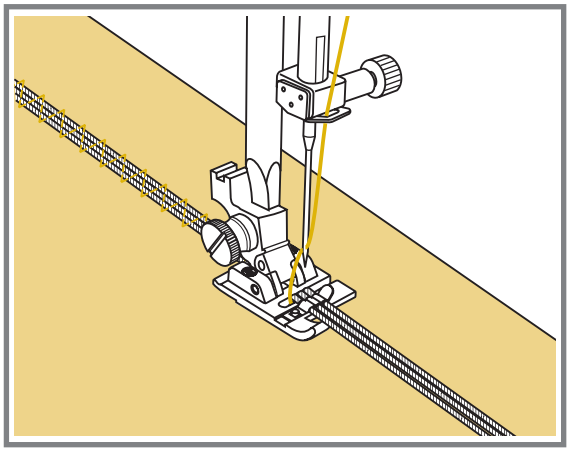
Mark the design on the fabric. Insert the cord in the center groove of the cording foot from the right side opening. Pull the cord about 5cm (2 inches) behind the foot.

The grooves under the foot will hold the length of the cord in place while the stitches are being form over the cord.

Select the stitch and adjust the stitch width so that the stitches are just covering the cord. Lower the foot and sew slowly, guiding the cord over the design.

Triple cording



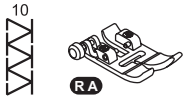


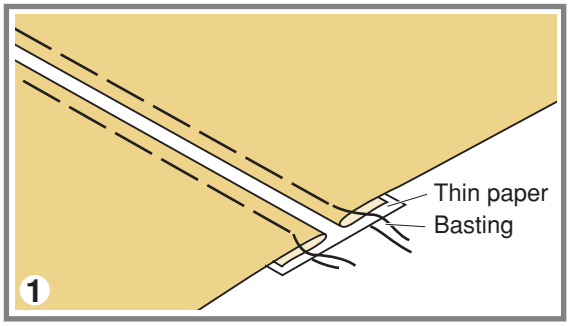
Push the sewing thread to the left and insert three cords into the grooves of the foot and pull about 5cm (2 inches) of the cords behind the foot.

Select the desired pattern and adjust the stitch width so that the stitches are just covering the cords. Lower the foot and sew slowly guiding the cords.

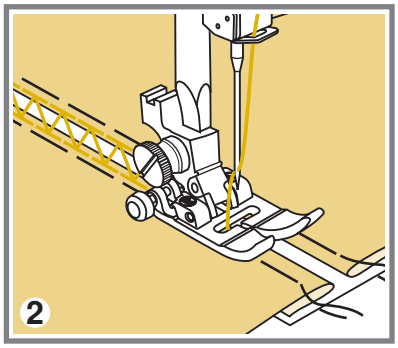
FAGOTING

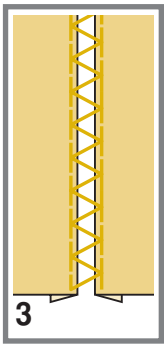
Group 2-B





1. Separate the folded edges of the fabric pieces with a gap of 4mm (1/8 inch) and baste them onto a piece of thin paper or water-soluble stabilizer sheet.

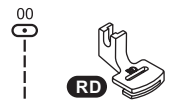


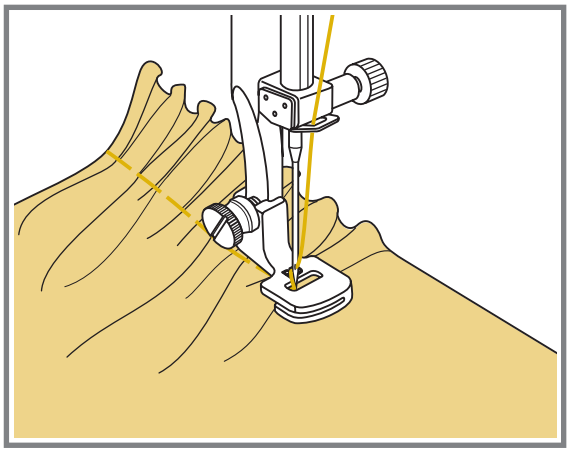


2. Align the center of the presser foot with the center of the two pieces of fabric and begin sewing.

3. After sewing, remove the paper.

GATHERING

Group 2-B	Recommended	
	1.0	4.5



Gather one layer of fabric or gather one layer and attach it to a flat fabric piece at the same time using the gathering foot. This foot gathers light to medium weight fabrics particularly well. It is usually necessary to use other sewing techniques to gather heavier fabrics.

1. Remove the presser foot holder and attach the gathering foot. For "Changing the presser foot" see page 32.

2. For gathering a single layer, just place a piece of fabric under the foot and adjust your stitch length and/or tighten the needle tension to automatically gather as you sew. The smaller sole on the bottom of the gathering foot causes the fabric to gather up behind the presser foot.

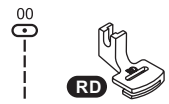
3. To get results by increasing stitch length. Test stitch length and tension adjustments to get the amount of gathers desired. Starting with the stitch length, begin by increasing the length the longer the length the fuller the gathers.

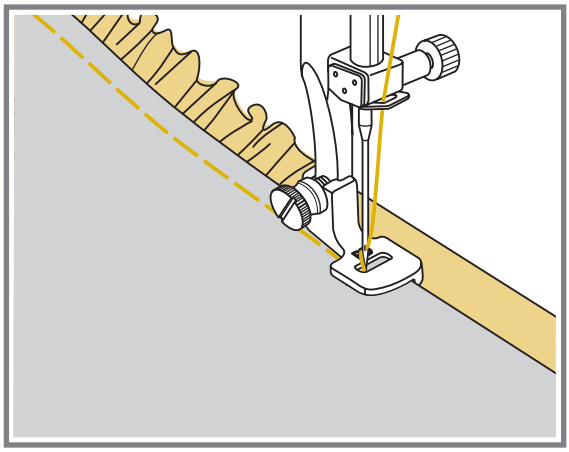
4. To get results by tighten needle tension. Using a stitch length of 2.5-3mm, increase the needle tension as you sew to get the results you desire.

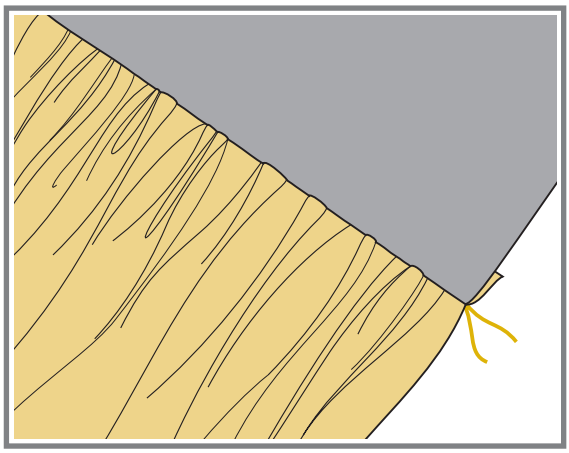
5. To get results by increasing stitch length and needle tension. Combine an increased stitch length with a tightened needle tension for a fuller gather. Always test your results before sewing to achieve the effect you desire.

Note: *You can also use the all purpose foot and gather fabric by hand by lowering the tension setting to below 2 and pulling the bobbin thread to gather the material.*

Attention: *Sew slow to medium speed for better fabric control.*

Group 2-B	Recommended	
	1.0	4.5





Look closely at the gathering foot to see a slot on the bottom.
When using the slot, you can gather the bottom layer of the fabric while attaching it to a flat top layer, such as the waistband on a dress bodice.

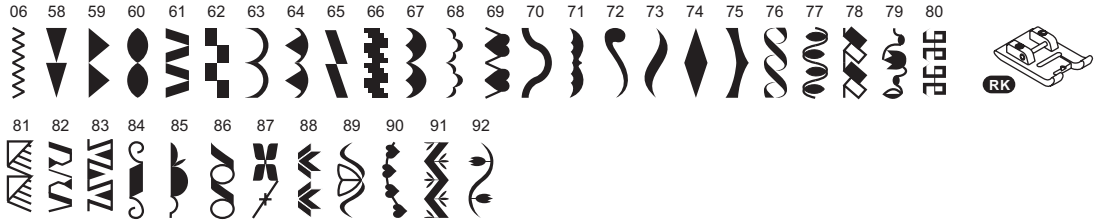
1. Remove the presser foot holder and attach gathering foot.
2. Place the fabric to be gathered with right side up under the foot.
3. Place top layer of the fabric right side down in the slot.
4. Guide the two layers as illustrated.

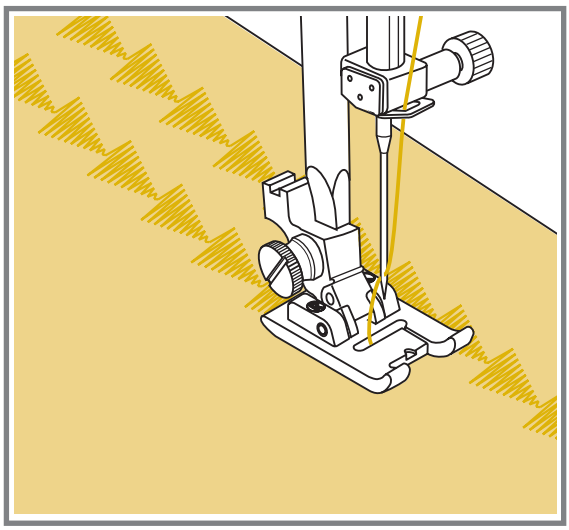
Note: *When testing machine for adjustments to achieve desired fullness, work with 10" increments of the fabric, trims or elastic. This makes it easier to determine the adjustments and how much change is needed for your project. Always test on your project fabric and on the same grainline as will be used in your finished project.*
Using the crossgrain of the fabric will make prettier gathers than the straight of grain.

Note: *Sew slow to medium speed for better fabric control.*

SATIN STITCH SEWING

Group 2-B





See Stitch Reference Chart on page 93 for stitch length and stitch width ranges.

Use the satin stitch foot for satin stitching and sewing decorative stitches. This foot has a full indentation on the underside to allowed easy sewing over the thickness of the stitches form by closely spaced zigzag stitches, and even feeding of the fabric.

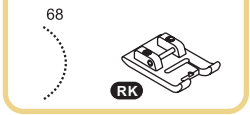
To tailor the satin or decorative stitch pattern, you may adjust the length and width of the pattern by pressing the stitch length and width adjustment buttons. Experiment with fabric scraps until you get the desired length and width.

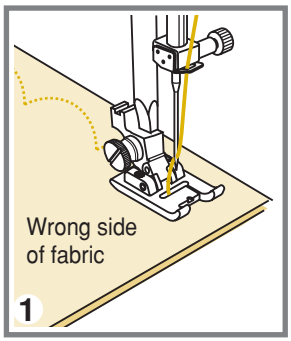
Note: *When sewing very thin fabrics, it is suggested that you use interfacing on the backside of the fabric.*

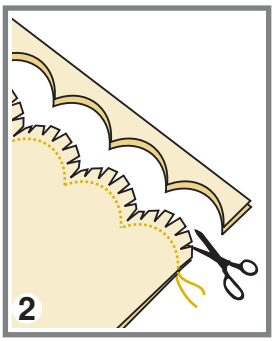
SCALLOP STITCH

Scallop hem

Group 4-D

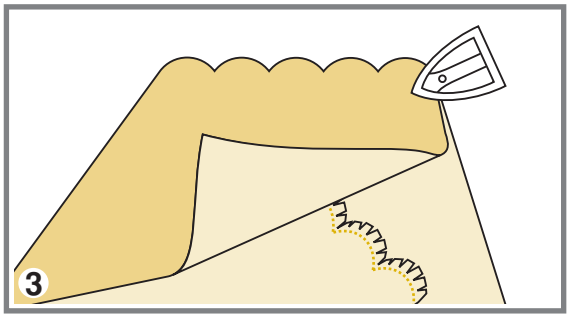






1. Place the fabric right sides together and sew along the edge.

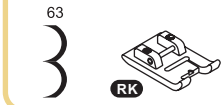
2. Cut the fabric along the seam leaving an allowance of 3mm (1/8 inch) for seaming. Notch the allowance.

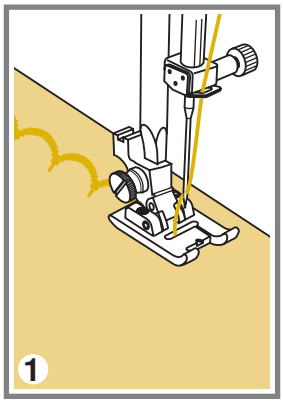


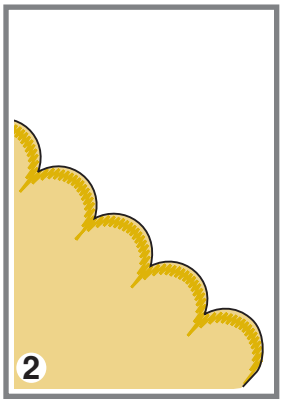
3. Turn the fabric over and push out the curved seam to the surface and press flat with iron.

Scallop edging

Group 2-B







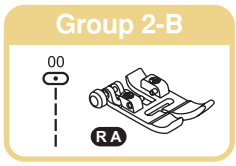
1. Place the fabric wrong sides together and stitch along the edge of the fabric, making sure not to sew directly on the edge of the fabric.

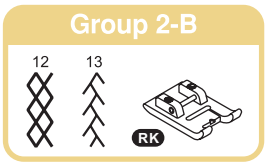
   * For better results, apply spray starch onto the fabric and press with a hot iron before it is sewn.

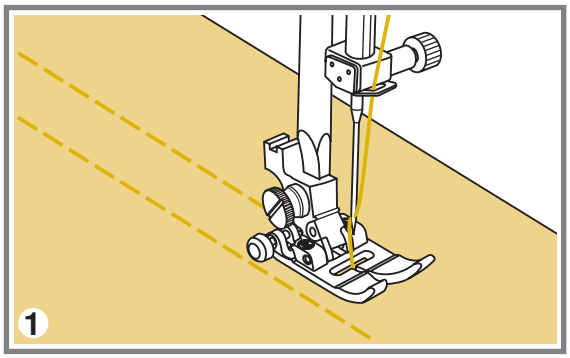
2. Trim along the stitches.

   * Be careful not to cut the stitches.

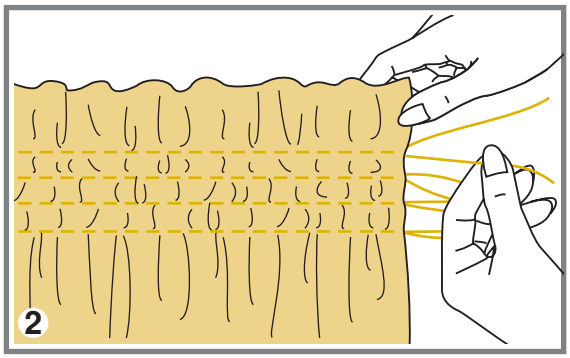
SMOCKING



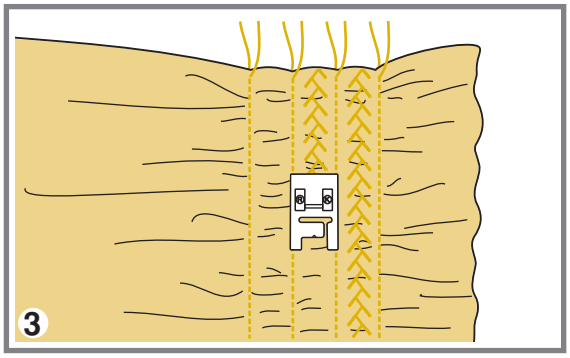




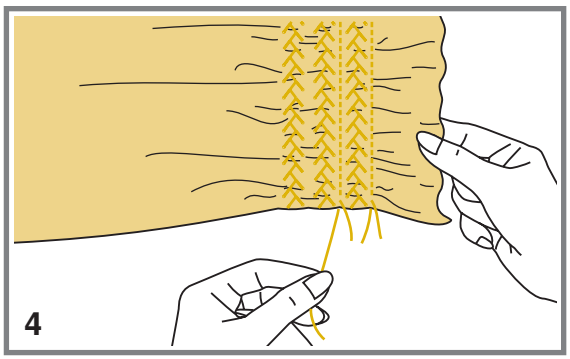
1. Use the all purpose foot to sew straight lines 1cm (3/8 inch) apart, across the area to be smocked.



2. Knot the threads at the beginning of the stitching. Pull the bobbin threads and distribute the gathers evenly. Secure the threads at end of the stitching.

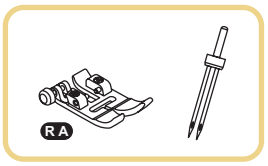


3. Reduce the tension, if necessary and sew decorative pattern stitches between the straight seams.



4. Pull out the gathering straight stitches.

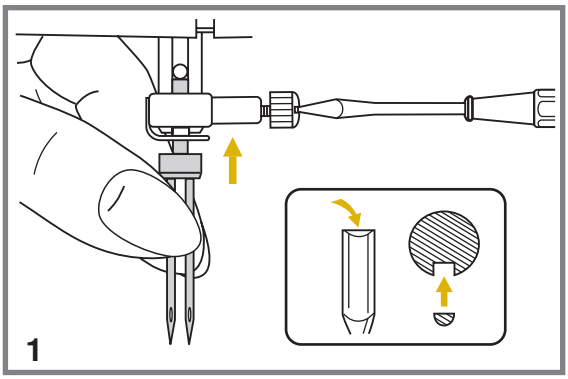
THE TWIN NEEDLE



Recommended

2.0~6.0

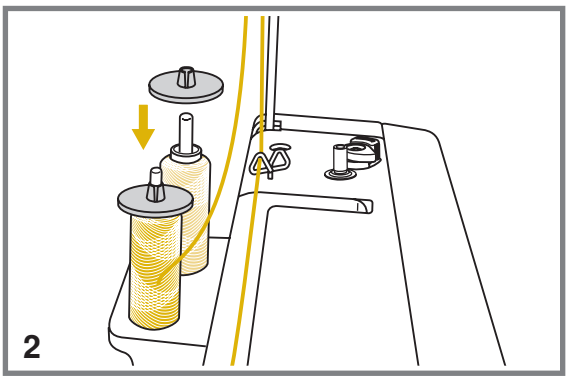
* Twin needle is not included with the machine.



With a twin needle, you can sew two parallel lines of the same stitch using two different threads; however make sure that the two threads are of the same weight and quality for balanced stitching.

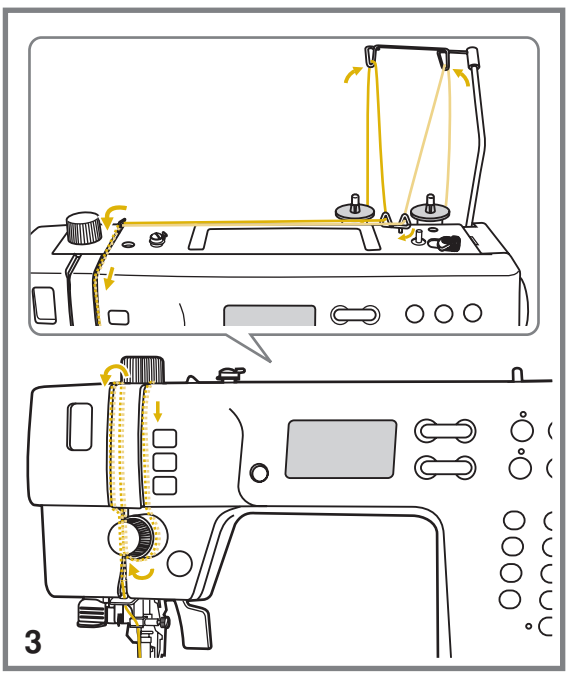
The needle distance of the twin needle can not exceed 5.0mm. If using a 5.0mm twin needle it is recommended to only use with the straight stitch patterns. 2.0mm twin needle is recommended for use with decorative patterns.

Note: *Always use the all purpose foot "RA" or the satin stitch foot "RK" when sewing with a twin needle.*

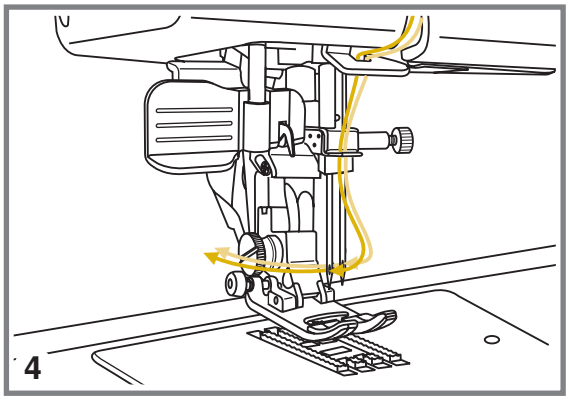


1. Insert the twin needle with flat side of the needle facing the back. See instructions for changing the needle on page 31.

2. Place one spool of thread on each spool pin. Thread the left spool of thread through the upper thread path, by pass the needle clamp thread guide and then into the left needle eye manually. (The needle threader cannot be used with twin needle.)

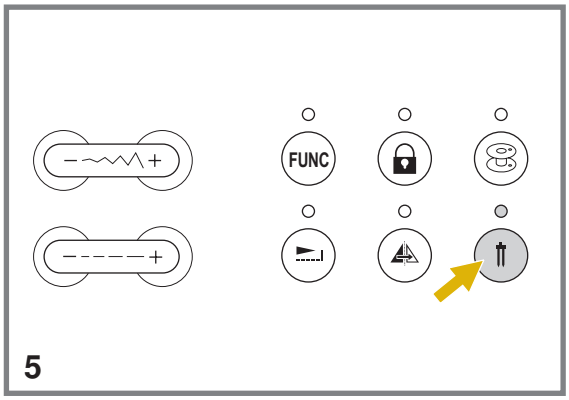


3. Thread the right spool of thread through the upper thread path, into the needle clamp thread guide, and then into the right needle eye manually. (The needle threader cannot be used with twin needle.)



4

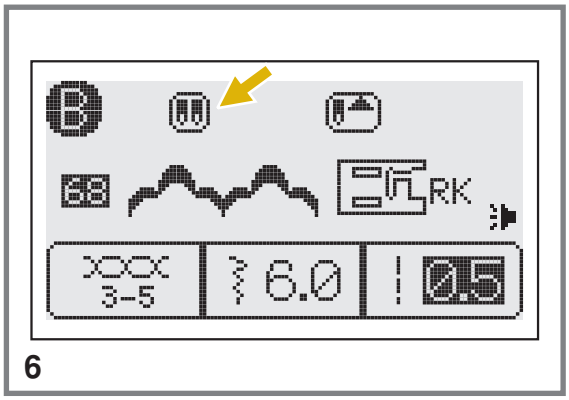
4. Be sure to thread each needle thread path separately.



5

5. Select a stitch pattern. Except patterns 27-49 from group 2-B, other patterns can be used with a twin needle.

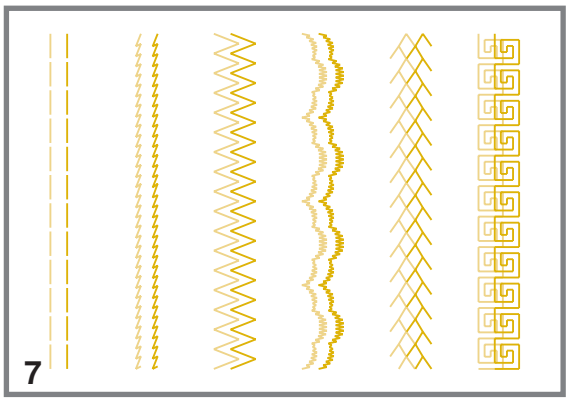
   Press the twin needle button, the LED light will turn on, and the machine automatically reduces the maximum width for twin needle sewing by 2mm.



6

6. The LCD screen will display the twin needle " " symbol.

   Each time a different stitch is selected, touch the twin needle button for twin needle sewing.



7

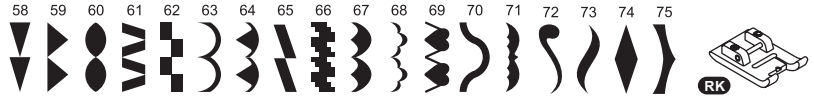
7. Two lines of stitching are sewn parallel to each other.

Note: *Before sewing, always turn the handwheel to make sure the needles do not hit the foot.*

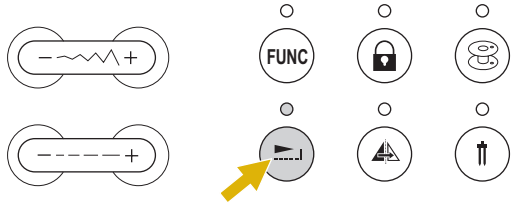
Note: *When sewing with twin needle, always proceed slowly, and make sure to maintain a slow speed to insure quality stitching.*

ELONGATION

Group 2-B

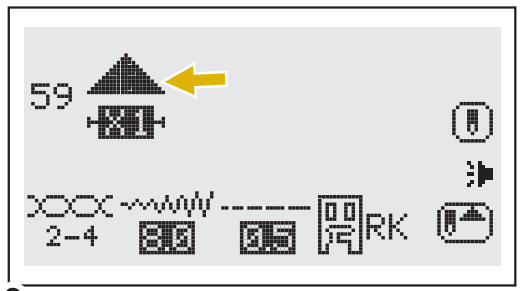


Recommended	
2.5~8.0	0.3~1.0



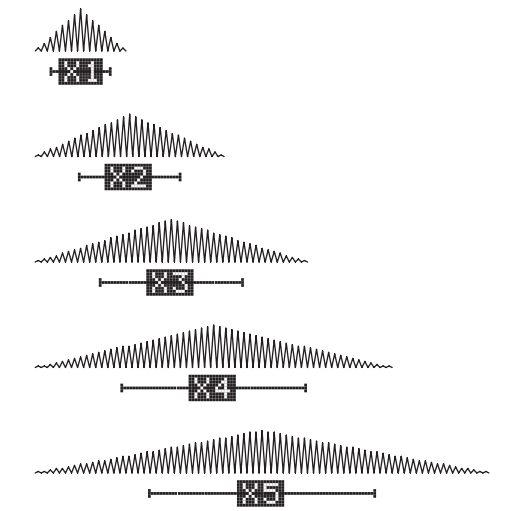
1

1. The stitch can be elongated up to five times its normal length by pressing the elongation button.



2

2. The elongation icon appears on the LCD screen with the elongated image of the selected pattern.



3

3. Press the elongation button to lengthen the pattern up to 5 times its original size.

   Changing the width or length adds to the variety of patterns.

Note: *Original stitch density remains the same after the pattern is elongated.*
Stitch length on the LCD screen indicates the length of actual stitch; however the elongation icon represents the pattern length.

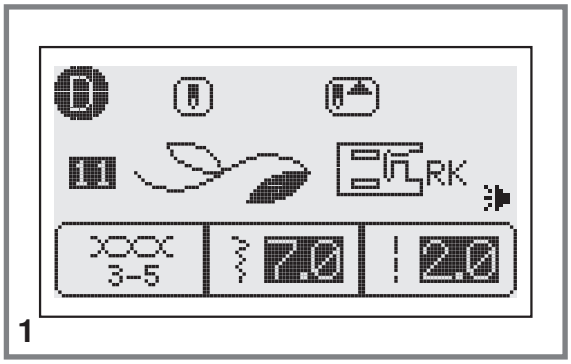
Note: *Satin stitch patterns 58-75 can be elongated and mirrored simultaneously.*

MIRROR IMAGE

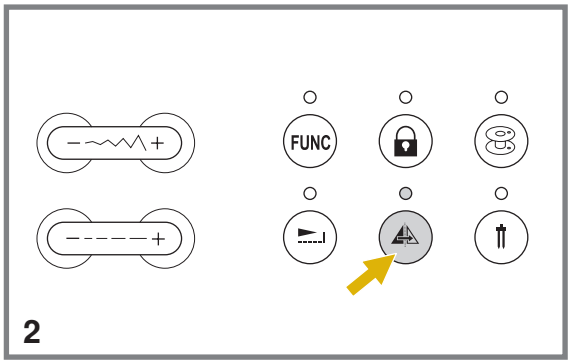
Note:

- Patterns 30-49 from Group 2-B Patterns cannot be mirror imaged.

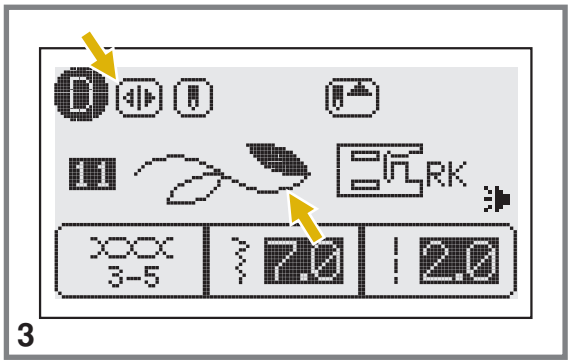
- Mirror imaged patterns can also be combined with other patterns.



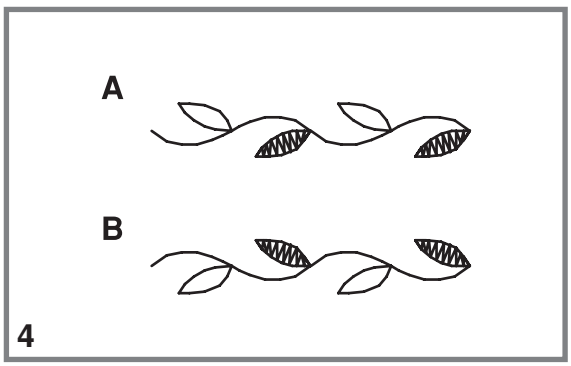
1. Press Func and Group 4-D, then select pattern 11.



2. Press the mirror image button.



3. The LCD screen icon for mirror imaging of the pattern appears.



A. Normal pattern sewing.

B. Mirror pattern sewing.

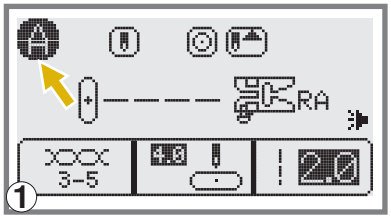
MEMORY FUNCTION

Combined patterns can be stored for later use. Since stored patterns are not lost after the sewing machine is turned off, they can be recalled at any time. This is convenient for patterns, such as names, that will be used often.

Note:

- *Multiple patterns selecting from groups 2-B, 3-C, 4-D, 5-A, 6-A can be combined and sewn together.*
- *Direct Patterns, Group 2-B patterns 27-49 and Group 3-C pattern 00 cannot be entered into memory.*
- *20 patterns can be combined in each of the 8 memory pockets.*
- *Stitch length, stitch width, elongation, mirror, and auto-lock for each pattern in the memory can be edited.*

Combining patterns or letters

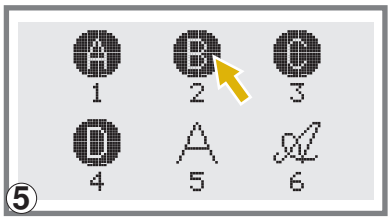


1. When you turn the machine "ON", the LCD screen displays " A ", however the memory function can be accessed through most screens.

2. Press the " M " button to open the memory mode and then a sub-screen appears in the center.

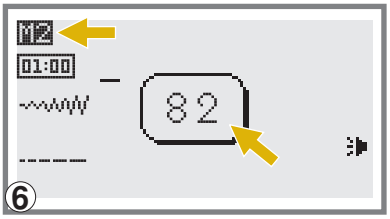
3. Press a numbered button 1 through 8 for the selected memory pocket. (For example: 2)

4. The memory screen is entered automatically and the flashing cursor is in position for the first pattern to be entered.



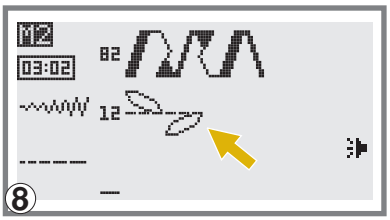
5. Press the " FUNC " Button; the LED light will turn on and LCD screen enters the pattern group screen.

   Select the number of the desired pattern group (for example, press 2.)



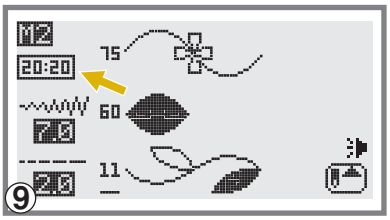
6. Press the desired pattern number. (e.g. 82)
   (Upper left corner of LCD shows the number of the memory opened- e.g. M2.)

7. The selected pattern displays on the LCD screen and the cursor moves to the second position.



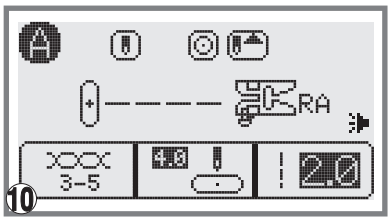
8. Repeat step 5~7 for more patterns to be stored in the memory.

Note: *Directly below the memory number is the cursor position in the entire memory pocket. Illustration shows the cursor in the 3th pattern position; and 2 patterns have been entered.*



9. When 20 patterns have been selected, the memory will be full. Illustration 9 shows the cursor in the 20th position and 20 patterns have been entered.

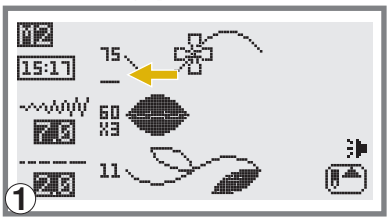
Note: *If another pattern is selected after the memory is full the machine will signal with two short beep.*



10. Press the " (M) " button to save the pattern combination and return to the normal screen.

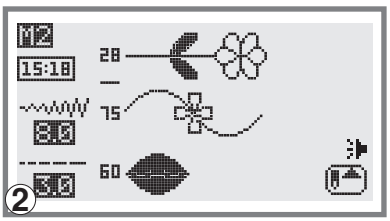
Attention: *The selected pattern combination will not be stored within the selected memory if the machine is turned off before pressing the " (M) " button after you have completed your pattern selection(s).*

Adding patterns or letters



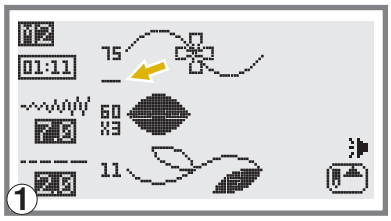
1. Press the " (M) " button and the number of the memory you wish to edit. Press the stitch width adjustment button to move the cursor. New pattern will be inserted above the pattern or letter selected with the cursor.

Attention: *The selected memory has to contain less than 20 patterns before selected pattern or letter can be inserted.*

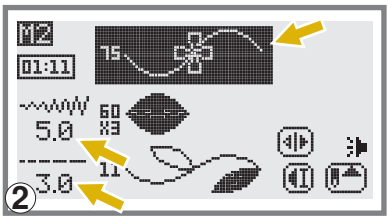


2. Press pattern number. (e.g. 28) The selected pattern will be inserted.
   Press the " (M) " button to save the pattern combination and return to normal screen.

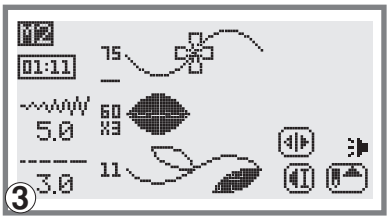
Editing patterns



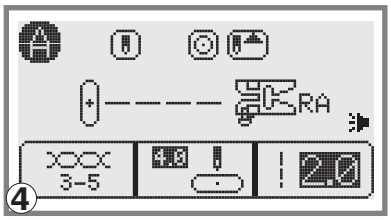
1. Press the " (M) " button and the number of the memory you wish to edit. Press the stitch width adjustment button to move the cursor to the pattern you wish to edit.



2. Press the " (EDIT) " button to edit the pattern. The stitch length, stitch width, elongation, mirror imaging and auto-lock of the patterns can be adjusted.

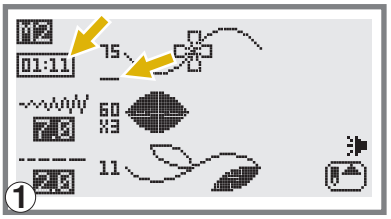


3. Press the " (EDIT) " button when selected pattern has been edited in order to return to the browse status. This will allow additional patterns to be edited if so desired.

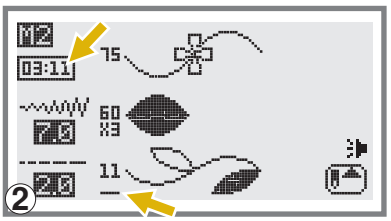


4. Press the " (M) " button to save the pattern changes and return to the normal screen.

Clearing patterns or letters



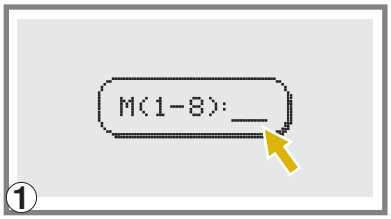
1. Press the " (M) " button and the number of the memory you wish to clear a selected pattern. Press the stitch width adjustment button to move the cursor below the pattern you wish to clear from the memory.



2. Press the " (C) " button to delete the selected pattern and the next pattern will move forward upward.
   Press the " (C) " button again to clear any additional patterns.

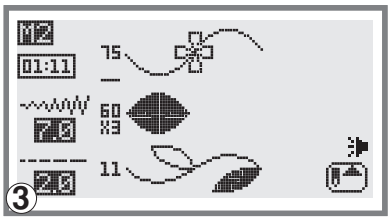
3. Press the " (M) " button to save the pattern changes and return to the normal screen.

Recalling and sewing the memorized pattern

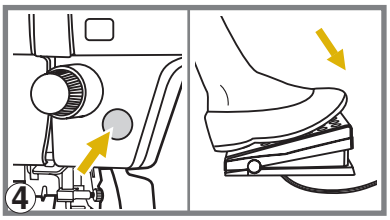


1. Press the " Ⓜ " button to enter the memory mode and then input the number of the memory when the cursor start flashing.

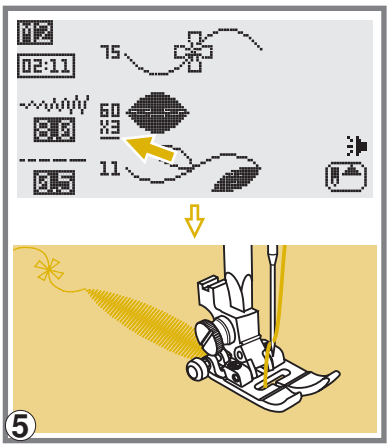
2. Input the number of the memory you wish to recall or sew. (e.g. 2)



3. The LCD screen containing the various types of saved stitches will open.

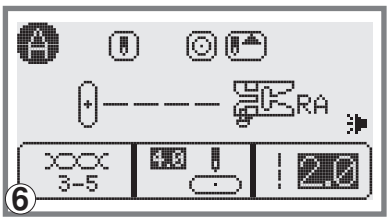


4. Press on the foot control or press the START/STOP button to start the sewing machine.



5. The cursor on the LCD screen will move along with the sequential pattern while sewing.

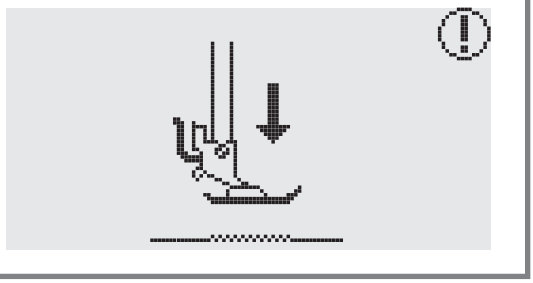
Note: *If the cursor stays in a position not showing a pattern, the machine will start sewing from the first pattern of the memory. If the cursor stays in a certain pattern, the machine will start sewing from that pattern.*



6. Press the " Ⓜ " button to leave memory and return to the normal sewing screen.

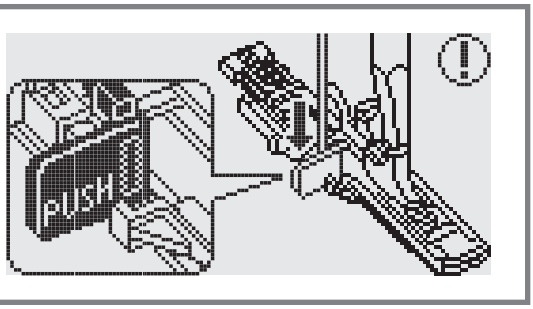
WARNING FUNCTIONS

Warning animation message display



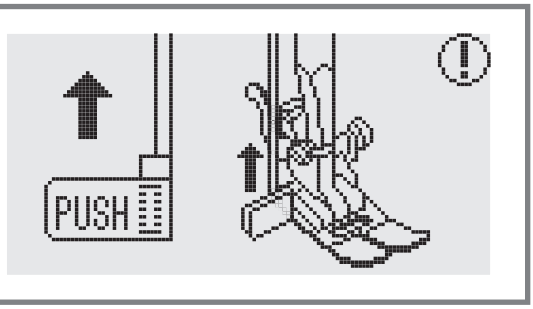
Presser foot is not lowered

The START/STOP button or reverse button was pressed while the presser foot was in the "UP" position. Lower presser foot lever.



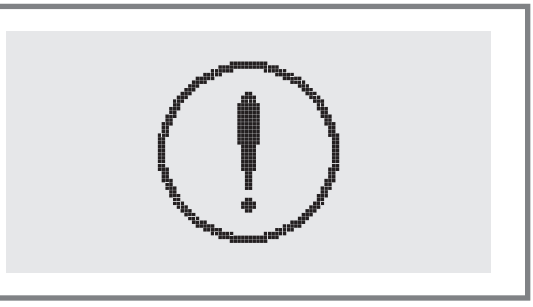
BH lever is not lowered

The buttonhole or darning stitch was selected and the START/STOP button was pressed while the buttonhole lever is raised. To sew a button hole or darning stitch, lower the buttonhole lever.



BH lever is not lifted

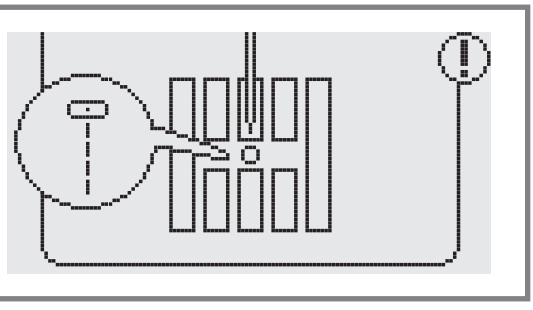
A stitch other than the buttonhole or darning stitch was selected and the START/STOP button was pressed while the buttonhole lever is down. To continue sewing, move the buttonhole lever up to the raised position.



The sewing machine is in trouble

This message means that the thread is twisted or jammed and the handwheel cannot move.

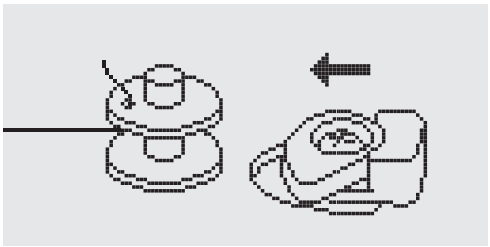
Please look through the "Trouble shooting" on page 91/92 to find the solution. After the problem has been solved, the machine will continue to sew. If the problem persists, please consult your local authorized Baby Lock retailer.



Changing the straight stitch needle plate

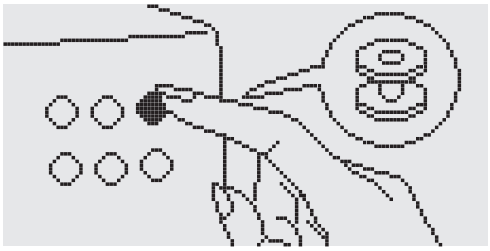
After changing to the straight stitch needle plate, the LCD screen will show a warning sign. Only the straight stitch in the center "4.0" position can be used. No other pattern or needle position can be selected. If other stitch patterns are used, the needle will hit the straight stitch needle plate and break.

Instruction animation message display



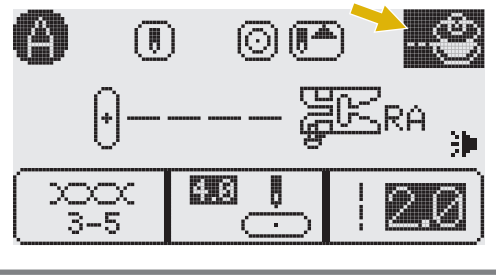
Push the bobbin winder stopper to the left.

This message appears when the bobbin winding button is pressed without pushing the bobbin winder stopper to the left. To wind a bobbin, push the bobbin winder stopper to the left and press the bobbin winder button again.



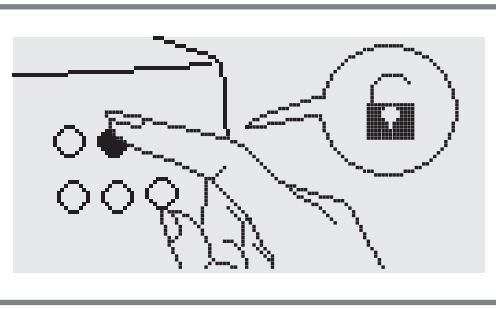
Press the bobbin winding button.

Push the bobbin winder stopper to left and this message will show the next step to wind a bobbin. Press the bobbin winding button to continue.



Bobbin winding

This illustration appears on LCD screen while the bobbin winder is winding the bobbin.



Unlock

This illustration appears on LCD screen while the Function and Selection buttons are lock.

Press the " ⓐ " button to unlock.

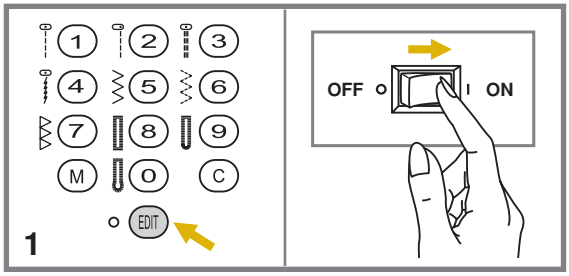
Attention: *If the thread gets jammed inside the bobbin area stopping the needle from moving and you continue pressing the foot control, the security switch will stop the machine completely. Turn OFF the machine, clean all thread and lint from the bobbin area. Rethread the machine completely; turn ON the machine to continue sewing.*

Warning beeping sound

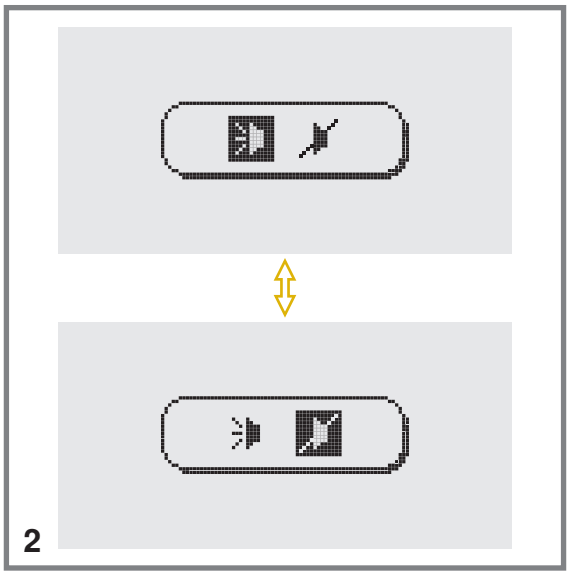
- When operating correctly: 1 beep.
- When the memory is full with 20 units of pattern: 3-short beeps.
- When operating incorrectly: 3-short beeps.
- When the sewing machine is in trouble and can't sew: 8 seconds short beeps.
  This means that the thread is twisted or jammed and the handwheel can't move.
  Please look through the "Trouble shooting" on pages 91/92 to find the solution. After the problem has been solved, the machine will continue to sew.

Note: *If the problem is still not solved, please contact your local Baby Lock Retailer.*

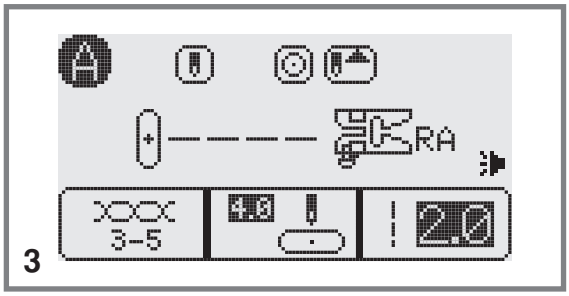
Beeping Sound



1. You can mute the beeping sound in normal operation.
   Press and hold the " EDIT " button and turn on the power switch.



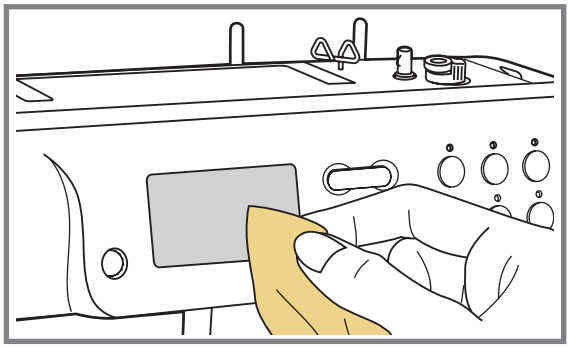
2. You can select the mode by pressing the stitch width "+" or "–" button. Select desired mode sound on " " or sound off " ".



3. Press the " EDIT " button after making selection to return to the normal LCD screen.

Note: *When the beeping sound is turned off the sound will remain muted even when power to the machine is switched to the OFF position.*
To resume the beeping sound by repeating the step 1 and 2.

Cleaning the LCD screen



Attention: *Disconnect the power cord from the wall socket before cleaning the LCD screen and sewing machine surface, otherwise injury or electrical shock may result.*

If the front panel is dirty, wipe it gently with a soft, dry cloth.

Do not use any organic solvents or detergents.

Cleaning the sewing machine surface

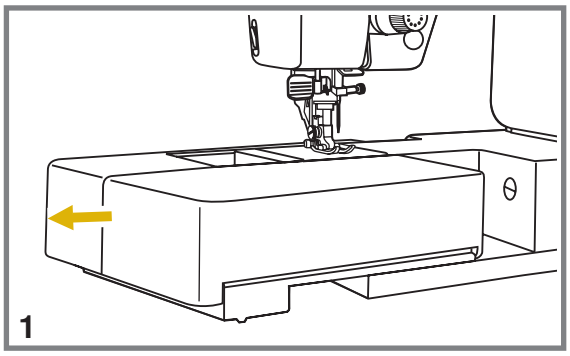
If the surface of the sewing machine is dirty, lightly soak a cloth in mild detergent, squeeze it out firmly and then wipe the surface. After cleaning it once in this way, wipe the surface again with a dry cloth.

Attention: *This machine is equipped with a 200mW, 300mW and 200mW LED lamp. If lamp replacement is needed, please contact nearest authorized Baby Lock retailer.*

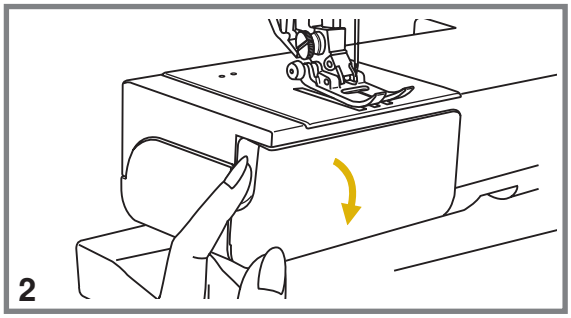
Cleaning the hook

If lint and bits of thread accumulate in the hook, this will interfere with the smooth operation of the machine. Check and clean regularly.

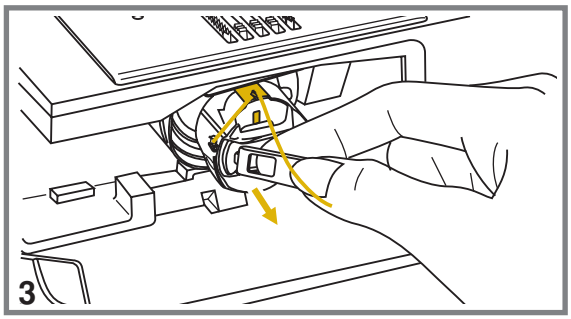
Attention: *Disconnect the machine from the wall outlet before cleaning.*



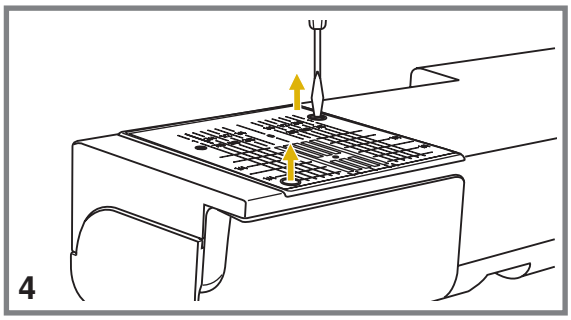
1. Remove the sewing table and accessory box.



2. Open the hinged cover.

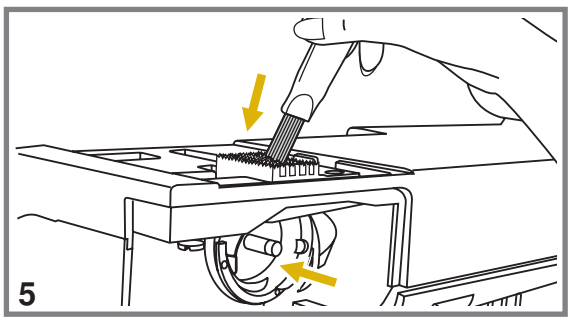


3. Remove the bobbin.

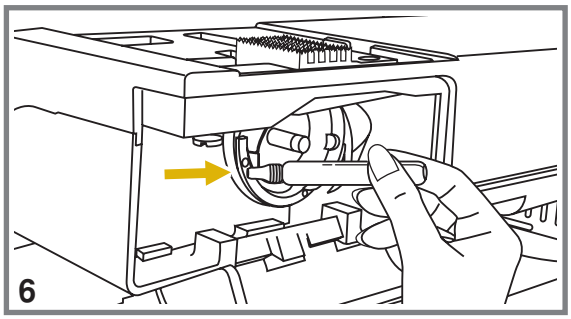


4. Remove the needle, presser foot, and presser foot holder.

   Remove the screws holding the needle plate and remove the needle plate.



5. Clean the hook race, feed dog and bobbin case with a brush. Also clean them, using a soft, dry cloth.



6. Apply a drop of oil (every 15 to 20 hours of operation) to the hook as shown in the illustration.

   Note: *Use good quality sewing machine oil ONLY!*

TROUBLE SHOOTING

Before calling for service, check the following items.
If the problem still persists, contact the place of purchase or your nearest authorized Baby Lock retailer.

Problem	Cause	Correction	Reference
Upper thread breaks	1.The machine is not threaded correctly.	1.Rethread the machine.	page 25
	2.The thread tension is too tight.	2.Reduce the thread tension to a lower number.	page 40
	3.The thread is too thick for the needle.	3.Select a larger needle.	page 39
	4.The needle is not inserted correctly.	4.Remove and reinsert the needle (flat side towards the back).	page 31
	5.The thread is wound around the spool holder pin.	5.Remove the spool of thread and rethread machine.	page 25
	6.The needle is damaged.	6.Replace the needle.	page 31
Lower thread breaks	1.The bobbin case is not inserted correctly.	1.Remove and reinsert the bobbin case and pull on the thread. The thread should pull easily.	page 23
	2.The bobbin case is threaded wrong.	2.Rethread both bobbin and bobbin case.	page 23
	3.The lower thread tension is too tight.	3.Loosen lower thread tension.	page 40
Skipped stitches	1.The needle is not inserted correctly.	1.Remove and reinsert needle (flat side towards the back).	page 31
	2.The needle is damaged.	2.Insert a new needle.	page 31
	3.The wrong size needle has been used.	3.Choose a needle to match the thread.	page 39
	4.The foot is not attached correctly.	4.Check and attach correctly.	page 32
	5.The machine is not threaded correctly.	5.Rethread the machine.	page 25
	6.The presser foot pressure is not strong enough.	6.Adjusting the presser foot pressure.	page 43
Needle breaks	1.The needle is damaged.	1.Insert a new needle.	page 31
	2.The needle is not correctly inserted.	2.Insert the needle correctly (flat side towards the back).	page 31
	3.Wrong needle size for the fabric.	3.Choose a needle to match the thread and fabric.	page 39
	4.The wrong foot is attached.	4.Select the correct foot.	page 93
	5.The needle clamp screw is loose.	5.Use the screwdriver to firmly tighten the screw.	page 31
	6.The presser foot that is used is not appropriate for the type of stitch that you wish to sew.	6.Attach the presser foot that is appropriate for the type of stitch that you wish to sew.	page 93
	7.The upper thread tension is too tight.	7.Loosen the upper thread tension.	page 40
Loose stitches	1.The machine is not correctly threaded.	1.Rethread the machine.	page 25
	2.The bobbin case is not correctly threaded.	2.Rethread the bobbin case.	page 23
	3.Needle/fabric/thread combination is wrong.	3.The needle size must match the fabric and thread.	page 39
	4.Thread tension is wrong.	4.Correct the thread tension.	page 40
Seams gather or pucker	1.The needle is too thick for the fabric.	1.Select a finer needle.	page 39
	2.The stitch length is adjusted wrong.	2.Readjust the stitch length.	page 41
	3.The thread tension is too tight.	3.Loosen the thread tension.	page 40

Problem	Cause	Correction	Reference
Seam puckering	1.The needle thread tension is too tight.	1.Loosen the thread tension.	page 40
	2.The needle thread is not threaded correctly.	2.Rethread the machine.	page 25
	3.The needle is too heavy for the fabric being sewn.	3.Choose a needle to match the thread and fabric.	page 39
	4.The stitch length is too long for the fabric.	4.Change the stitch length.	page 41
	5.The presser foot pressure is not correctly adjusted.	5.Adjust the presser foot pressure.	page 43
Patterns are distorted	1.The correct presser foot is not used.	1.Select the correct foot.	page 93
	2.The needle thread tension is too tight.	2.Loosen the thread tension .	page 40
	3.The stitch length is not suitable for the fabric being sewn.	3.Change stitch length.	page 41
	4.Feed balancing dial is not set properly.	4.Adjusting pattern balance.	page 42
The machine jams	1.Thread is caught in the hook.	Remove the upper thread and bobbin case, turn the handwheel backwards and forwards by hand and remove the thread remnants.	page 89
	2.The feed dogs are packed with lint.		
The machine is noisy	1.Lint or oil have collected on the hook or needle bar.	1.Clean the hook and feed dog.	page 89
	2.Poor quality oil has been used.	2.Only use good quality sewing machine oil.	--
	3.The needle is damaged.	3.Replace the needle.	page 31
	4.Slight humming sound coming from internal motor.	4.Normal.	--
	5.Thread is caught in the hook.	Remove the upper thread and bobbin case, turn the handwheel backwards and forwards by hand and remove the thread remnants.	page 89
	6.The feed dogs are packed with lint.		
Uneven stitches, uneven feed	1.Poor quality thread.	1.Select a better quality thread.	page 39
	2.The bobbin case is threaded wrong.	2.Remove the bobbin case, then thread and reinsert correctly.	page 23
	3.Fabric has been pulled.	3.Do not pull on the fabric while sewing, let it be taken up by the machine.	--
The sewing machine doesn't operate	1.The machine is not turned on.	1.Turn on the machine.	page 17
	2.The START/STOP button or foot control pedal was not pressed.	2.Press the START/STOP button or the foot control pedal.	page 7/8
	3.The presser foot lever is raised.	3.Lower the presser foot lever.	page 34
	4.A thread is caught in the hook race.	4.Remove the upper thread and bobbin case, turn the handwheel backwards and forwards by hand and remove the thread remnants.	page 89
	5.The machine is not plugged in.	5.Connect the power cord plug to the electrical outlet.	page 16

STITCH REFERENCE CHART

Group 1-A Pattern "A"-10

Stitch Pattern		Width (mm)		Length (mm)		Presser Foot	Functions						
		Auto	Manual	Auto	Manual		Reverse	Auto-lock	Elongation	Mirror	Presser foot	Twin needle	Memory
Utility stitches	1	4.0	0.0~8.0	2.0	0.0~5.0	RA	*	*		*	RA	*	
	2	8.0	0.0~8.0	3.0	0.0~5.0	RA	*	*		*	RA	*	
	3	4.0	0.0~8.0	2.5	1.0~3.0	RA	*	*		*	RA	*	
	4	4.0	1.0~7.0	2.0	1.0~3.0	RA	*	*		*	RA	*	
	5	6.0	0.0~8.0	3.0	0.0~5.0	RA	*	*		*	RA	*	
	6	6.0	0.0~8.0	1.0	0.3~5.0	RA	*	*		*	RA	*	
	7	6.0	4.0~8.0	3.0	1.0~3.0	RI	*	*		*	RA	*	
Buttonhole stitches	8	5.4	3.0~7.0	0.5	0.3~1.0	RJ							
	9	5.0	3.5~7.0	0.5	0.3~1.0	RJ							
	0	7.0	5.5~7.0	0.5	0.3~1.0	RJ							

*: Features may be applicable.

Group 2-B Pattern "B"-93

Stitch Pattern		Width (mm)		Length (mm)		Presser Foot	Functions						
		Auto	Manual	Auto	Manual		Reverse	Auto-lock	Elongation	Mirror	Presser foot	Twin needle	Memory
Utility stitches	00	4.0	0.0~8.0	2.0	0.0~5.0	RA	*	*		*	RA	*	*
	01	8.0	0.0~8.0	3.0	0.0~5.0	RA	*	*		*	RA	*	*
	02	4.0	0.0~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	03	4.0	0.0~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	04	4.0	0.0~8.0	2.5	1.0~3.0	RA	*	*		*	RA	*	*
	05	4.0	1.0~7.0	2.0	1.0~3.0	RA	*	*		*	RA	*	*
	06	3.5	0.0~8.0	1.5	0.0~5.0	RA	*	*		*	RA	*	*
	07	6.0	1.0~8.0	1.0	0.3~5.0	RA	*	*		*	RA	*	*
	08	6.0	2.5~8.0	2.5	1.0~3.0	RA	*	*		*	RA	*	*
	09	6.0	4.0~8.0	3.0	1.0~3.0	RI	*	*		*	RA	*	*
	10	6.0	2.5~8.0	3.0	1.0~3.0	RA	*	*		*	RA	*	*
	11	6.0	2.5~8.0	3.0	2.0~3.0	RA	*	*		*	RA	*	*
	12	6.0	2.5~8.0	3.0	1.0~3.0	RK	*	*		*	RK	*	*
	13	6.0	2.5~8.0	3.0	1.0~3.0	RK	*	*		*	RK	*	*
	14	6.0	2.5~8.0	3.0	1.0~3.0	RK	*	*		*	RK	*	*
	15	4.0	2.5~8.0	2.0	1.0~5.0	RA	*	*		*	RA	*	*
	16	3.0	2.5~6.0	2.0	1.0~5.0	RM	*	*		*	RA	*	*
	17	3.0	2.5~8.0	1.5	1.0~5.0	RA	*	*		*	RA	*	*
	18	3.0	2.5~8.0	1.0	1.0~5.0	RA	*	*		*	RM	*	*
	19	4.0	2.5~6.0	1.0	1.0~3.0	RM	*	*		*	RA	*	*
	20	6.0	2.5~6.0	1.0	1.0~5.0	RM	*	*		*	RA	*	*
	21	6.0	2.5~8.0	1.0	1.0~5.0	RA	*	*		*	RA	*	*

Stitch Pattern		Width (mm)		Length (mm)		Presser Foot	Functions						
		Auto	Manual	Auto	Manual		Reverse	Auto-lock	Elongation	Mirror	Presser foot	Twin needle	Memory
Utility stitches	22	6.0	2.5~8.0	1.5	1.0~5.0	RA	*	*		*	RA	*	*
	23	4.0	2.5~8.0	1.0	1.0~5.0	RA	*	*		*	RA	*	*
	24	4.0	2.5~8.0	2.0	1.0~5.0	RA	*	*		*	RA	*	*
	25	6.0	2.5~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	26	4.0	3.5~8.0	3.0	2.0~3.0	RA	*	*		*	RA	*	*
Tie-off straight stitch	27	4.0	0.0~8.0	2.0	1.0~5.0	RA	*			*	RA		
Piecing straight stitch	28	4.0	0.0~8.0	2.0	1.0~5.0	RA	*			*	RA		
Basting stitch	29	4.0	0.0~8.0	5.0	1.0~5.0	RA	*			*	RA		
Buttonhole stitches	30	5.4	3.0~7.0	0.5	0.3~1.0	RJ							
	31	5.0	2.5~7.0	0.5	0.3~1.0	RJ							
	32	5.0	3.5~7.0	0.5	0.3~1.0	RJ							
	33	5.0	3.5~7.0	0.5	0.3~1.0	RJ							
	34	7.0	5.5~7.0	0.5	0.3~1.0	RJ							
	35	7.0	5.5~7.0	0.5	0.3~1.0	RJ							
	36	7.0	5.5~7.0	0.5	0.3~1.0	RJ							
	37	5.0	2.5~7.0	2.0	0.3~3.0	RJ							
	38	6.0	2.5~7.0	1.0	1.0~2.0	RJ							
	39	6.0	3.5~7.0	2.0	2.0~3.0	RJ							
Eyelet stitches	40	7.0	5.0~8.0			RK							
	41	7.0	5.0~8.0			RK							
Buttonhole stitch	42	5.0	2.5~8.0	2.0	1.0~2.0	RJ							
Button sewing stitch	43	3.0	2.5~4.5			RC							
Bar tack stitch	44	2.0	1.0~3.0	0.5	0.4~1.0	RJ							
	45	2.0	1.0~3.0	0.5	0.0~1.0	RK		*					
Darning stitches	46	8.0	3.5~8.0	2.0	1.0~2.0	RJ							
	47	8.0	3.5~8.0	2.0	1.5~2.0	RJ							
	48	8.0	3.5~8.0	2.0	1.0~2.0	RJ							
	49	8.0	3.5~8.0	1.0	1.0~3.0	RK							
Cross stitches	50	6.0	3.0~8.0	1.0	1.0~3.0	RK	*	*		*	RK	*	*
	51	6.0	3.0~8.0	1.0	1.0~3.0	RK	*	*		*	RK	*	*
	52	6.0	2.5~8.0	3.0	1.0~3.0	RK	*	*		*	RK	*	*
	53	6.0	3.0~8.0	3.0	2.5~3.0	RK	*	*		*	RK	*	*
	54	4.0	3.0~8.0	1.0	1.0~3.0	RA	*	*		*	RA	*	*
	55	8.0	3.5~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	56	8.0	3.5~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	57	6.0	3.5~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
Satin stitches	58	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
	59	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
	60	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
	61	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
	62	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*

Stitch Pattern		Width (mm)		Length (mm)		Presser Foot	Functions						
		Auto	Manual	Auto	Manual		Reverse	Auto-lock	Elongation	Mirror	Presser foot	Twin needle	Memory
Satin stitches	63	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
	64	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
	65	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
	66	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
	67	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
	68	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
	69	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
	70	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
	71	8.0	3.0~8.0	0.5	0.2~1.0	RK	*	*	*	*	RK	*	*
	72	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
	73	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
	74	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
	75	8.0	3.0~8.0	0.5	0.0~1.0	RK	*	*	*	*	RK	*	*
Decorative stitches	76	8.0	3.0~8.0	1.5	1.0~2.0	RK	*	*		*	RK	*	*
	77	8.0	3.0~8.0	1.0	1.0~3.0	RK	*	*		*	RK	*	*
	78	8.0	3.5~8.0	2.0	2.0~3.0	RK	*	*		*	RK	*	*
	79	8.0	4.0~8.0	2.0	1.0~3.0	RK	*	*		*	RK	*	*
	80	8.0	3.5~8.0	1.5	1.5~3.0	RK	*	*		*	RK	*	*
	81	8.0	3.5~8.0	3.0	1.5~3.0	RK	*	*		*	RK	*	*
	82	7.0	3.5~8.0	2.0	1.5~3.0	RK	*	*		*	RK	*	*
	83	7.0	3.5~8.0	2.0	1.5~3.0	RK	*	*		*	RK	*	*
	84	8.0	2.5~8.0	2.0	1.5~3.0	RK	*	*		*	RK	*	*
	85	8.0	3.5~8.0	3.0	1.5~3.0	RK	*	*		*	RK	*	*
	86	8.0	4.0~8.0	2.0	1.5~3.0	RK	*	*		*	RK	*	*
	87	8.0	4.0~8.0	1.5	1.5~3.0	RK	*	*		*	RK	*	*
	88	8.0	3.5~8.0	1.0	1.0~3.0	RK	*	*		*	RK	*	*
	89	8.0	3.5~8.0	2.0	1.5~3.0	RK	*	*		*	RK	*	*
	90	8.0	3.5~8.0	2.0	1.0~3.0	RK	*	*		*	RK	*	*
	91	8.0	4.0~8.0	2.0	1.8~3.0	RK	*	*		*	RK	*	*
	92	8.0	3.5~8.0	2.0	1.8~3.0	RK	*	*		*	RK	*	*

*: Features may be applicable.

Group 3-C Pattern "C"-25

Stitch Pattern		Width (mm)		Length (mm)		Presser Foot	Functions						
		Auto	Manual	Auto	Manual		Reverse	Auto-lock	Elongation	Mirror	Presser foot	Twin needle	Memory
Quilt stitches	00	4.0	0.0~8.0	2.5	1.0~5.0	RA	*			*	RA	*	
	01	4.0	0.0~8.0	2.0	1.0~5.0	RA	*	*		*	RA	*	*
	02	7.8	0.0~8.0	2.0	1.0~5.0	RA	*	*		*	RA	*	*
	03	6.0	4.5~8.0	1.0	1.0~2.5	RA	*	*		*	RA	*	*
	04	1.8	0.0~8.0	2.0	1.0~5.0	RA	*	*		*	RA	*	*
	05	2.5	2.0~8.0	2.5	2.5~5.0	RA	*	*		*	RA	*	*
	06	2.5	2.0~8.0	2.5	1.5~3.0	RA	*	*		*	RA	*	*
	07	2.0	1.5~8.0	2.0	1.0~5.0	RA	*	*		*	RA	*	*
	08	3.0	2.0~8.0	2.0	1.0~5.0	RA	*	*		*	RA	*	*
	09	3.0	2.0~8.0	2.0	1.0~3.0	RA	*	*		*	RA	*	*
	10	2.0	2.0~8.0	1.0	1.0~5.0	RA	*	*		*	RA	*	*
	11	6.0	2.5~8.0	3.0	1.0~3.0	RA	*	*		*	RA	*	*
	12	6.0	3.5~8.0	3.0	1.5~3.0	RA	*	*		*	RA	*	*
	13	6.0	2.5~8.0	2.0	1.0~3.0	RA	*	*		*	RA	*	*
	14	8.0	3.5~8.0	3.0	2.5~3.0	RA	*	*		*	RA	*	*
	15	8.0	3.5~8.0	2.0	1.0~3.0	RA	*	*		*	RA	*	*
	16	8.0	3.5~8.0	2.0	1.0~3.0	RA	*	*		*	RA	*	*
	17	8.0	3.5~8.0	2.5	2.0~3.0	RA	*	*		*	RA	*	*
	18	4.0	0.0~8.0	2.5	1.5~3.0	RA	*	*		*	RA	*	*
	19	8.0	3.5~8.0	3.0	1.5~3.0	RA	*	*		*	RA	*	*
	20	5.0	2.5~8.0	3.0	1.5~5.0	RA	*	*		*	RA	*	*
	21	5.0	2.5~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	22	8.0	3.5~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	23	7.0	3.5~8.0	1.4	1.0~3.0	RA	*	*		*	RA	*	*
	24	7.0	3.5~8.0	1.0	1.0~3.0	RA	*	*		*	RA	*	*

*: Features may be applicable.

Group 4-D Pattern "D"-79

Stitch Pattern		Width (mm)		Length (mm)		Presser Foot	Functions						
		Auto	Manual	Auto	Manual		Reverse	Auto-lock	Elongation	Mirror	Presser foot	Twin needle	Memory
Decorative stitches	00	5.0	3.5~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	01	5.0	3.5~8.0	3.0	1.5~3.0	RA	*	*		*	RA	*	*
	02	5.0	3.5~8.0	3.0	2.0~3.0	RA	*	*		*	RA	*	*
	03	7.0	3.5~8.0	3.0	2.0~3.0	RA	*	*		*	RA	*	*
	04	7.0	3.5~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	05	7.0	3.5~8.0	2.0	2.0~3.0	RA	*	*		*	RA	*	*
	06	7.0	3.0~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*

Stitch Pattern		Width (mm)		Length (mm)		Presser Foot	Functions						
		Auto	Manual	Auto	Manual		Reverse	Auto-lock	Elongation	Mirror	Presser foot	Twin needle	Memory
Decorative stitches	07	7.0	3.5~8.0	3.0	1.5~3.0	RA	*	*		*	RA	*	*
	08	7.0	3.5~8.0	3.0	1.5~3.0	RK	*	*		*	RK	*	*
	09	7.0	4.0~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	10	7.0	4.5~8.0	2.5	2.0~3.0	RK	*	*		*	RK	*	*
	11	7.0	3.5~8.0	2.0	1.5~3.0	RK	*	*		*	RK	*	*
	12	7.0	3.5~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	13	7.0	4.5~8.0	3.0	2.5~3.0	RK	*	*		*	RK	*	*
	14	7.0	4.5~8.0	3.0	2.5~3.0	RK	*	*		*	RK	*	*
	15	8.0	5.0~8.0	3.0	2.5~3.0	RK	*	*		*	RK	*	*
	16	8.0	3.5~8.0	3.0	1.5~3.0	RK	*	*		*	RK	*	*
	17	8.0	5.0~8.0	3.0	2.5~3.0	RK	*	*		*	RK	*	*
	18	8.0	4.5~8.0	2.0	1.5~3.0	RK	*	*		*	RK	*	*
	19	8.0	4.5~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	20	8.0	4.5~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	21	8.0	3.5~8.0	2.0	1.5~3.0	RK	*	*		*	RK	*	*
	22	8.0	5.0~8.0	2.0	2.0~3.0	RK	*	*		*	RK	*	*
	23	8.0	4.0~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	24	8.0	4.0~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	25	8.0	5.0~8.0	2.0	2.0~3.0	RK	*	*		*	RK	*	*
	26	8.0	5.0~8.0	3.0	2.5~3.0	RK	*	*		*	RK	*	*
	27	8.0		3.0		RK	*	*		*	RK		*
	28	8.0		3.0		RK	*	*		*	RK		*
	29	8.0	5.0~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	30	8.0	5.0~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	31	8.0	3.5~8.0	3.0	1.5~3.0	RK	*	*		*	RK	*	*
	32	8.0	5.0~8.0	2.0	2.0~3.0	RK	*	*		*	RK	*	*
	33	7.0	3.5~8.0	3.0	1.5~3.0	RA	*	*		*	RA	*	*
	34	8.0	5.0~8.0	1.8	1.0~2.5	RK	*	*		*	RK	*	*
	35	8.0	3.5~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	36	8.0	4.5~8.0	3.0	2.5~3.0	RK	*	*		*	RK	*	*
	37	7.0	3.5~8.0	2.0	1.5~3.0	RK	*	*		*	RK	*	*
	38	8.0	4.5~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	39	8.0	4.5~8.0	3.0	1.5~3.0	RK	*	*		*	RK	*	*
	40	8.0	4.5~8.0	3.0	1.5~3.0	RK	*	*		*	RK	*	*
	41	7.0	3.5~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	42	7.0	3.5~8.0	2.0	1.0~3.0	RA	*	*		*	RA	*	*
	43	7.0	3.5~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	44	7.0	3.5~8.0	2.0	1.0~3.0	RA	*	*		*	RA	*	*
	45	7.0	4.5~8.0	2.0	1.5~3.0	RK	*	*		*	RK	*	*
	46	8.0	3.5~8.0	3.0	1.5~3.0	RK	*	*		*	RK	*	*
	47	5.0	3.0~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*

Stitch Pattern		Width (mm)		Length (mm)		Presser Foot	Functions						
		Auto	Manual	Auto	Manual		Reverse	Auto-lock	Elongation	Mirror	Presser foot	Twin needle	Memory
Decorative stitches	48	5.0	3.5~8.0	3.0	1.5~3.0	RK	*	*		*	RK	*	*
	49	8.0	3.5~8.0	3.0	1.5~3.0	RK	*	*		*	RK	*	*
	50	4.0	0.0~8.0	3.0	2.0~3.0	RA	*	*		*	RA	*	*
	51	7.0	3.5~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	52	7.0	3.5~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	53	7.0	3.0~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	54	7.0	3.0~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	55	8.0	5.0~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	56	8.0	5.0~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	57	7.0	5.0~8.0	1.5	1.5~3.0	RA	*	*		*	RA	*	*
	58	8.0	5.0~8.0	3.0	1.0~3.0	RK	*	*		*	RK	*	*
	59	7.0	3.5~8.0	2.0	1.0~3.0	RA	*	*		*	RA	*	*
	60	7.0	5.0~8.0	2.0	1.5~3.0	RK	*	*		*	RK	*	*
	61	7.0	5.0~8.0	2.0	1.5~3.0	RK	*	*		*	RK	*	*
	62	8.0	3.5~8.0	2.0	2.0~3.0	RK	*	*		*	RK	*	*
	63	7.0	5.0~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	64	8.0	5.0~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	65	8.0	5.5~8.0	3.0	2.5~3.0	RK	*	*		*	RK	*	*
	66	8.0	5.5~8.0	1.5	1.5~3.0	RK	*	*		*	RK	*	*
	67	8.0	3.5~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	68	7.0	3.5~8.0	1.0	1.0~3.0	RA	*	*		*	RA	*	*
	69	7.0	4.5~8.0	3.0	1.5~3.0	RK	*	*		*	RK	*	*
	70	8.0	4.0~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	71	8.0	4.0~8.0	2.5	2.0~3.0	RK	*	*		*	RK	*	*
	72	7.0	3.5~8.0	2.0	1.5~3.0	RK	*	*		*	RK	*	*
	73	8.0	5.0~8.0	2.0	2.0~3.0	RK	*	*		*	RK	*	*
	74	5.0	4.0~8.0	1.0	1.0~3.0	RA	*	*		*	RA	*	*
	75	7.0	4.5~8.0	2.0	1.5~3.0	RA	*	*		*	RA	*	*
	76	7.0	5.0~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	77	8.0	5.0~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*
	78	8.0	5.0~8.0	3.0	2.0~3.0	RK	*	*		*	RK	*	*

*: Features may be applicable.

Block style group "A" patterns-78

Stitch Pattern			Width (mm)		Length (mm)		Presser Foot	Functions						
			Auto	Manual	Auto	Manual		Reverse	Auto-lock	Elongation	Mirror	Presser foot	Twin needle	Memory
Block style	01	1	8.0	6.0,8.0	---	------	RK		*					*
	02	2	8.0	6.0,8.0	---	------	RK		*					*
	03	3	8.0	6.0,8.0	---	------	RK		*					*
	04	4	8.0	6.0,8.0	---	------	RK		*					*
	05	5	8.0	6.0,8.0	---	------	RK		*					*
	06	6	8.0	6.0,8.0	---	------	RK		*					*
	07	7	8.0	6.0,8.0	---	------	RK		*					*
	08	8	8.0	6.0,8.0	---	------	RK		*					*
	09	9	8.0	6.0,8.0	---	------	RK		*					*
	10	0	8.0	6.0,8.0	---	------	RK		*					*
	11	A	8.0	6.0,8.0	---	------	RK		*					*
	12	B	8.0	6.0,8.0	---	------	RK		*					*
	13	C	8.0	6.0,8.0	---	------	RK		*					*
	14	D	8.0	6.0,8.0	---	------	RK		*					*
	15	E	8.0	6.0,8.0	---	------	RK		*					*
	16	F	8.0	6.0,8.0	---	------	RK		*					*
	17	G	8.0	6.0,8.0	---	------	RK		*					*
	18	H	8.0	6.0,8.0	---	------	RK		*					*
	19	I	8.0	6.0,8.0	---	------	RK		*					*
	20	J	8.0	6.0,8.0	---	------	RK		*					*
	21	K	8.0	6.0,8.0	---	------	RK		*					*
	22	L	8.0	6.0,8.0	---	------	RK		*					*
	23	M	8.0	6.0,8.0	---	------	RK		*					*
	24	N	8.0	6.0,8.0	---	------	RK		*					*
	25	O	8.0	6.0,8.0	---	------	RK		*					*
	26	P	8.0	6.0,8.0	---	------	RK		*					*
	27	Q	8.0	6.0,8.0	---	------	RK		*					*
	28	R	8.0	6.0,8.0	---	------	RK		*					*
	29	S	8.0	6.0,8.0	---	------	RK		*					*
	30	T	8.0	6.0,8.0	---	------	RK		*					*
	31	U	8.0	6.0,8.0	---	------	RK		*					*
	32	V	8.0	6.0,8.0	---	------	RK		*					*
	33	W	8.0	6.0,8.0	---	------	RK		*					*
	34	X	8.0	6.0,8.0	---	------	RK		*					*
	35	Y	8.0	6.0,8.0	---	------	RK		*					*
	36	Z	8.0	6.0,8.0	---	------	RK		*					*
	37	a	8.0	6.0,8.0	---	------	RK		*					*
	38	b	8.0	6.0,8.0	---	------	RK		*					*
	39	c	8.0	6.0,8.0	---	------	RK		*					*

Stitch Pattern			Width (mm)		Length (mm)		Presser Foot	Functions						
			Auto	Manual	Auto	Manual		Reverse	Auto-lock	Elongation	Mirror	Presser foot	Twin needle	Memory
Block style	40	d	8.0	6.0,8.0	---	------	RK		*					*
	41	e	8.0	6.0,8.0	---	------	RK		*					*
	42	f	8.0	6.0,8.0	---	------	RK		*					*
	43	g	8.0	6.0,8.0	---	------	RK		*					*
	44	h	8.0	6.0,8.0	---	------	RK		*					*
	45	i	8.0	6.0,8.0	---	------	RK		*					*
	46	j	8.0	6.0,8.0	---	------	RK		*					*
	47	k	8.0	6.0,8.0	---	------	RK		*					*
	48	l	8.0	6.0,8.0	---	------	RK		*					*
	49	m	8.0	6.0,8.0	---	------	RK		*					*
	50	n	8.0	6.0,8.0	---	------	RK		*					*
	51	o	8.0	6.0,8.0	---	------	RK		*					*
	52	p	8.0	6.0,8.0	---	------	RK		*					*
	53	q	8.0	6.0,8.0	---	------	RK		*					*
	54	r	8.0	6.0,8.0	---	------	RK		*					*
	55	s	8.0	6.0,8.0	---	------	RK		*					*
	56	t	8.0	6.0,8.0	---	------	RK		*					*
	57	u	8.0	6.0,8.0	---	------	RK		*					*
	58	v	8.0	6.0,8.0	---	------	RK		*					*
	59	w	8.0	6.0,8.0	---	------	RK		*					*
	60	x	8.0	6.0,8.0	---	------	RK		*					*
	61	y	8.0	6.0,8.0	---	------	RK		*					*
	62	z	8.0	6.0,8.0	---	------	RK		*					*
	63	–	8.0	6.0,8.0	---	------	RK		*					*
	64	▪	8.0	6.0,8.0	---	------	RK		*					*
	65	’	8.0	6.0,8.0	---	------	RK		*					*
	66	,	8.0	6.0,8.0	---	------	RK		*					*
	67	!	8.0	6.0,8.0	---	------	RK		*					*
	68	-	8.0	6.0,8.0	---	------	RK		*					*
	69	+	8.0	6.0,8.0	---	------	RK		*					*
	70	=	8.0	6.0,8.0	---	------	RK		*					*
	71	&	8.0	6.0,8.0	---	------	RK		*					*
	72	÷	8.0	6.0,8.0	---	------	RK		*					*
	73	?	8.0	6.0,8.0	---	------	RK		*					*
	74	%	8.0	6.0,8.0	---	------	RK		*					*
	75	(	8.0	6.0,8.0	---	------	RK		*					*
	76	)	8.0	6.0,8.0	---	------	RK		*					*
	77	[	8.0	6.0,8.0	---	------	RK		*					*
	78	]	8.0	6.0,8.0	---	------	RK		*					*

*: Features may be applicable.

Script style group "𝒜" patterns-78

Stitch Pattern			Width (mm)		Length (mm)		Presser Foot	Functions						
			Auto	Manual	Auto	Manual		Reverse	Auto-lock	Elongation	Mirror	Presser foot	Twin needle	Memory
Script style	01	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	02	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	03	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	04	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	05	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	06	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	07	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	08	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	09	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	10	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	11	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	12	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	13	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	14	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	15	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	16	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	17	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	18	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	19	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	20	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	21	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	22	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	23	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	24	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	25	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	26	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	27	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	28	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	29	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	30	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	31	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	32	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	33	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	34	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	35	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	36	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	37	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	38	𝒜	8.0	6.0,8.0	---	------	RK		*					*
	39	𝒜	8.0	6.0,8.0	---	------	RK		*					*

Stitch Pattern			Width (mm)		Length (mm)		Presser Foot	Functions						
			Auto	Manual	Auto	Manual		Reverse	Auto-lock	Elongation	Mirror	Presser foot	Twin needle	Memory
Script style	40	*d*	8.0	6.0,8.0	---	------	RK		*					*
	41	*e*	8.0	6.0,8.0	---	------	RK		*					*
	42	*f*	8.0	6.0,8.0	---	------	RK		*					*
	43	*g*	8.0	6.0,8.0	---	------	RK		*					*
	44	*h*	8.0	6.0,8.0	---	------	RK		*					*
	45	*i*	8.0	6.0,8.0	---	------	RK		*					*
	46	*j*	8.0	6.0,8.0	---	------	RK		*					*
	47	*k*	8.0	6.0,8.0	---	------	RK		*					*
	48	*l*	8.0	6.0,8.0	---	------	RK		*					*
	49	*m*	8.0	6.0,8.0	---	------	RK		*					*
	50	*n*	8.0	6.0,8.0	---	------	RK		*					*
	51	*o*	8.0	6.0,8.0	---	------	RK		*					*
	52	*p*	8.0	6.0,8.0	---	------	RK		*					*
	53	*q*	8.0	6.0,8.0	---	------	RK		*					*
	54	*r*	8.0	6.0,8.0	---	------	RK		*					*
	55	*s*	8.0	6.0,8.0	---	------	RK		*					*
	56	*t*	8.0	6.0,8.0	---	------	RK		*					*
	57	*u*	8.0	6.0,8.0	---	------	RK		*					*
	58	*v*	8.0	6.0,8.0	---	------	RK		*					*
	59	*w*	8.0	6.0,8.0	---	------	RK		*					*
	60	*x*	8.0	6.0,8.0	---	------	RK		*					*
	61	*y*	8.0	6.0,8.0	---	------	RK		*					*
	62	*z*	8.0	6.0,8.0	---	------	RK		*					*
	63	_	8.0	6.0,8.0	---	------	RK		*					*
	64	.	8.0	6.0,8.0	---	------	RK		*					*
	65	’	8.0	6.0,8.0	---	------	RK		*					*
	66	,	8.0	6.0,8.0	---	------	RK		*					*
	67	!	8.0	6.0,8.0	---	------	RK		*					*
	68	–	8.0	6.0,8.0	---	------	RK		*					*
	69	+	8.0	6.0,8.0	---	------	RK		*					*
	70	=	8.0	6.0,8.0	---	------	RK		*					*
	71	&	8.0	6.0,8.0	---	------	RK		*					*
	72	÷	8.0	6.0,8.0	---	------	RK		*					*
	73	?	8.0	6.0,8.0	---	------	RK		*					*
	74	%	8.0	6.0,8.0	---	------	RK		*					*
	75	(	8.0	6.0,8.0	---	------	RK		*					*
	76	)	8.0	6.0,8.0	---	------	RK		*					*
	77	/	8.0	6.0,8.0	---	------	RK		*					*
	78	/	8.0	6.0,8.0	---	------	RK		*					*

*: Features may be applicable.

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baby lock BLQ2-PL(RT)